

Table 2-9-1A Gross Regional Domestic Product of South Sumatra  
Including Petroleum & Natural Gas

No.	Sector	1986	1987	1988	1989
1.	Agriculture	983,156	1,105,016	1,203,292	1,330,953
		785,552	809,656	841,316	884,530
2.	Mining	776,243	1,024,552	1,111,605	1,214,249
		970,182	950,110	914,637	1,001,325
3.	Industry	934,079	1,205,255	1,378,735	1,610,366
		848,264	915,652	936,698	1,006,221
4.	Electricity, & Water Supply	17,957	21,335	24,929	28,045
		11,597	13,297	15,474	16,844
5.	Construction	178,627	211,134	251,131	284,274
		150,106	159,937	173,180	181,877
6.	Trade	1,060,415	1,271,603	1,412,125	1,632,097
		849,057	909,650	948,845	1,007,973
7.	Transport & Communication	165,107	168,335	177,803	192,978
		154,398	162,127	170,312	100,769
8.	Bank, Other Financial Office & House Rental	133,596	148,658	163,212	170,371
		109,275	115,462	119,614	126,482
9.	Government & Other Services	232,213	265,470	298,719	312,115
		189,393	198,551	209,440	221,862
Total		4,481,393	5,422,158	6,030,631	6,775,448
		4,067,824	4,242,442	4,329,516	4,627,873

1983 : 3,518,760 million rupiah  
upper : at current prices  
lower : at constant 1983 prices

Table 2-9-2A Gross Regional Domestic Product of South Sumatra  
Excluding Petroleum & Natural Gas

No.	Sector	1986	1987	1988	1989
1.	Agriculture	983,156	1,105,016	1,203,292	1,330,953
		785,552	809,656	841,316	884,530
2.	Mining	161,817	179,122	205,714	214,063
		128,503	137,305	148,180	160,123
3.	Industry	590,527	746,153	829,063	966,250
		554,630	585,321	593,153	632,782
4.	Electricity, & Water Supply	17,957	21,335	24,929	28,045
		11,597	13,297	15,474	16,844
5.	Construction	178,627	211,134	251,131	284,274
		150,106	159,937	173,180	181,877
6.	Trade	936,716	1,311,716	1,261,700	1,455,001
		750,098	803,675	837,357	889,909
7.	Transport & Communication	165,107	168,335	177,803	192,978
		154,398	162,127	170,312	100,769
8.	Bank, Other Financial Office & House Rental	133,596	148,658	163,212	170,371
		109,275	115,462	119,614	126,482
9.	Government & Other Services	232,213	265,470	298,719	312,115
		189,393	198,551	209,440	221,862
Total		3,399,716	3,977,739	4,415,563	4,901,058
		2,833,552	2,985,327	3,108,320	3,295,968

1983 : 2,466,304 million rupiah  
upper : at current prices  
lower : at constant 1983 prices

Table 2-9-3A Gross Regional Domestic Product of Kabupaten Bangka Including Tin in million rupiah

No.	Sector	1987	1988	1989
1.	Agriculture	180,049	193,363	206,581
		49,125	50,982	53,556
2.	Mining	25,447	93,228	111,900
		67,321	74,545	81,207
3.	Industry	97,296	144,537	199,413
		110,310	112,553	118,856
4.	Electricity, & Water Supply	981	1,283	1,444
		559	750	816
5.	Construction	7,543	8,972	10,156
		5,714	6,187	6,498
6.	Trade	117,386	145,324	166,249
		103,023	119,982	127,141
7.	Transport & Communication	5,723	5,998	6,423
		5,646	6,056	6,454
8.	Bank & Other Financial Office & House Rental	8,159	8,858	9,546
		5,886	6,033	6,444
9.	Government & Services	13,422	14,864	16,178
		10,263	10,840	11,398
<b>Total</b>		<b>456,006</b>	<b>616,427</b>	<b>727,890</b>
		<b>357,847</b>	<b>387,928</b>	<b>412,370</b>

1983 : 330,888 million rupiah  
upper : at current prices  
lower : at constant 1983 prices

Table 2-9-4A Gross Regional Domestic Product of Kabupaten Bangka Excluding Tin in million rupiah

No.	Sector	1987	1988	1989
1.	Agriculture	180,049	193,363	206,581
		49,125	50,982	53,556
2.	Mining	300	349	615
		270	290	477
3.	Industry	7,181	8,198	9,381
		5,436	6,088	6,569
4.	Electricity, & Water Supply	981	1,283	1,444
		559	750	816
5.	Construction	7,543	8,972	10,156
		5,714	6,187	6,498
6.	Trade	56,981	77,497	88,913
		40,632	49,855	60,991
7.	Transport & Communication	5,723	5,998	6,423
		5,646	6,056	6,454
8.	Bank & Other Financial Office & House Rental	8,159	8,858	9,546
		5,886	6,033	6,444
9.	Government & Services	13,422	14,864	16,178
		10,263	10,840	11,398
Total		280,339	319,382	349,237
		123,531	137,081	153,203

1983 : 86,063 million rupiah  
upper : at current prices  
lower : at constant 1983 prices

Table 2-9-5A Gross Regional Domestic Product of Kabupaten Belitung Including Tin in million rupiah

No.	Sector	1986	1987	1988
1.	Agriculture	17,320	18,960	20,313
		13,954	14,371	14,771
2.	Mining	5,567	17,883	28,845
		7,233	10,141	11,151
3.	Industry	12,206	14,073	16,243
		10,028	10,848	12,024
4.	Electricity, & Water Supply	417	631	725
		311	449	507
5.	Construction	6,340	7,189	8,551
		5,063	5,446	5,897
6.	Trade	20,851	25,998	29,553
		17,168	19,153	20,703
7.	Transport & Communication	6,037	6,473	7,045
		5,756	6,197	6,648
8.	Bank & Other Financial Office	512	613	773
		430	482	568
9.	House Rental	3,773	4,143	4,539
		3,013	3,132	3,230
10.	Government	5,354	5,770	6,737
		4,491	4,534	4,954
11.	Services	4,041	4,087	4,521
		2,705	2,771	2,866
Total		82,418	105,802	127,845
		70,152	77,524	83,319

1983 : 62,845 million rupiah  
upper : at current prices  
lower : at constant 1983 prices

Table 2-9-6A Gross Regional Domestic Product of Kabupaten Belitung Excluding Tin in million rupiah

No.	Sector	1986	1987	1988
1.	Agriculture	17,320	18,960	20,313
		13,954	14,371	14,771
2.	Mining	1,215	1,433	1,717
		1,075	1,140	1,263
3.	Industry	12,206	14,073	16,243
		10,028	10,848	12,024
4.	Electricity, & Water Supply	417	631	725
		311	449	507
5.	Construction	6,340	7,189	8,551
		5,063	5,446	5,897
6.	Trade	20,681	25,468	28,950
		16,086	17,198	18,013
7.	Transport & Communication	6,037	6,473	7,045
		5,756	6,197	6,648
8.	Bank & Other Financial Office	512	613	773
		430	482	568
9.	House Rental	3,773	4,143	4,539
		3,013	3,132	3,230
10.	Government	5,354	5,770	6,737
		4,491	4,534	4,954
11.	Services	4,041	4,087	4,521
		2,705	2,771	2,866
Total		77,896	88,822	100,114
		62,912	66,568	70,741

1983 : 54,826 million rupiah  
upper: at current prices  
lower: at constant 1983 prices

Table 2-9-7A Length of Road in South Sumatera Province (km)

DESCRIPTION	STATE	PROVINCE	KABUPATEN	TOTAL
1. Type of surface :				
a. Asphalted	1,012.80	1,679	2,113.18	4,804.98
b. Gravel	-	290.70	1,677.83	1,973.53
c. Earth	5.00	648.40	3,813.26	4,461.66
d. Unspecified	-	-	-	-
Total	1,017.80	2,618.10	7,604.27	11,240.17
2. Road condition :				
a. Good	1,012.80	1,679	2,098.39	4,790.19
b. Moderate	5.00	730.60	3,227.97	3,963.57
c. Damage	-	208.50	2,277.91	2,486.41
d. Heavy damage	-	-	-	-
Total	1,017.80	2,618.10	7,604.27	11,240.17

Sources : Representative Office of Public Work of South Sumatera

Table 2-9-8A Length of Road in Kotamadya Palembang (km)

DESCRIPTION	1986	1987	1988	1989
1. Type of surface :				
a. Asphalted	255.89	271.907	279.106	281.423
b. Gravel	-	-	-	-
c. Earth	22.283	12.283	7.877	14.550
Total	278.173	284.190	286.983	295.973
2. Road condition :				
a. Good	41.174	41.174	41.174	41.174
b. Moderate	212.845	218.174	221.596	230.586
c. Damage	24.213	24.213	24.213	24.213
d. Heavy damage	-	-	-	-
Total	278.232	283.559	286.983	295.973

Source: Public Work of Kotamadya Palembang

Table 2-9-9A Length of Road in Kabupaten Bangka (km)

DESCRIPTION	1986	1987	1988	1989
1. Type of surface :				
a. Asphalted	642.90	430.80	310.31	359.89
b. Gravel	140.20	-	-	-
c. Earth	1,112.580	159.70	1,089.92	1,089.83
Total	1,895.680	590.50	1,449.72	1,449.72

Sources : Representative Office of Public Work of South Sumatera

Table 2-9-10A Length of Road in Kabupaten Belitung (km)

DESCRIPTION	1986	1987	1988	1989
1. Type of surface :				
a. Asphalted	351.850	193.416	200.29	232.95
b. Gravel	53	-	-	-
c. Earth	366.950	303.039	347.43	340.45
Total	771.850	496.455	547.725	573.40

Sources : Representative Office of Public Work of South Sumatera



PALEMBANG

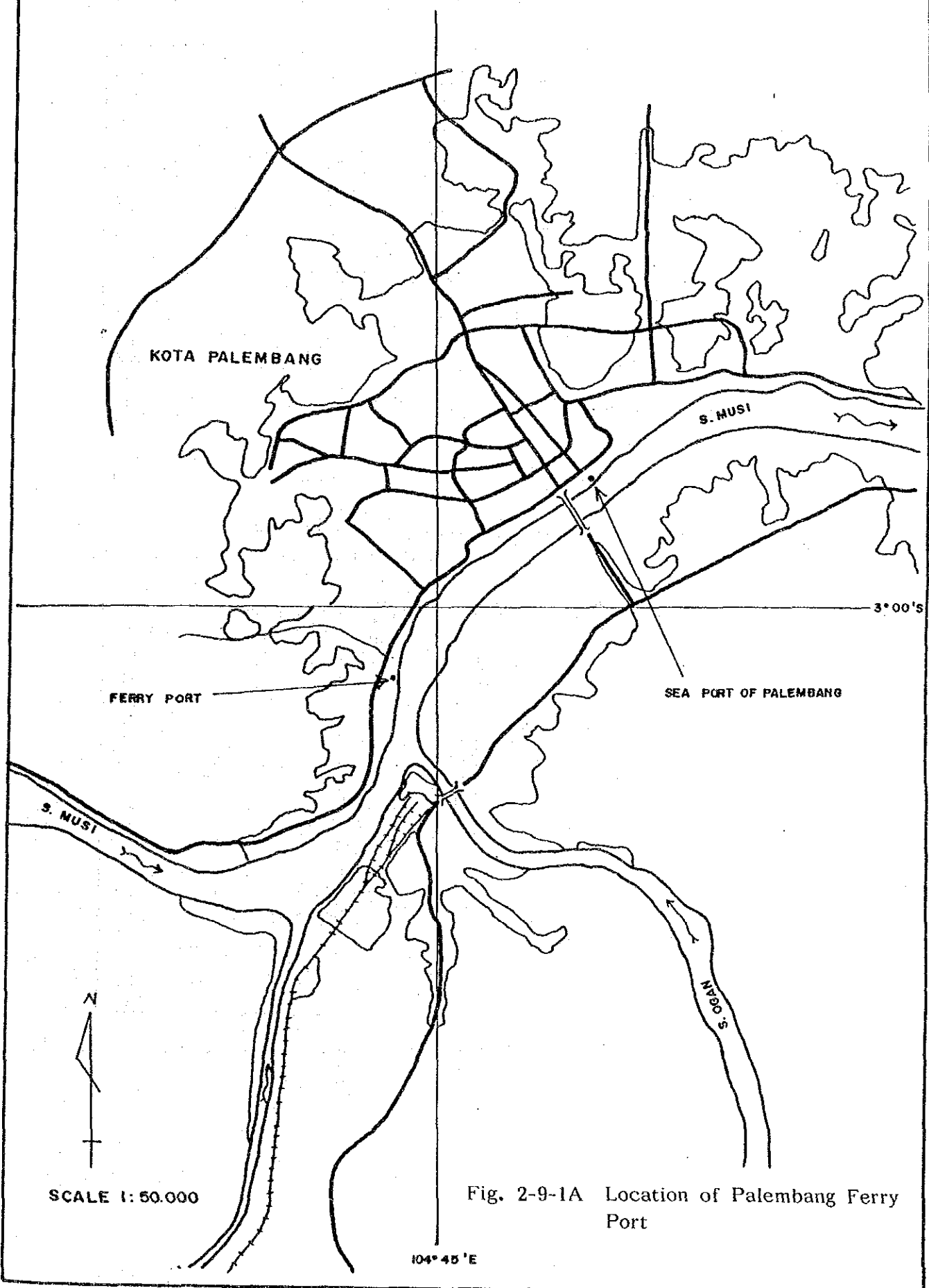


Fig. 2-9-1A Location of Palembang Ferry Port

104° 45' E

Table 2-9-11A The Call Number of Ferry at Palembang and Kayu Arang

Month	Palembang			Kayu Arang		
	1989	1990	1991	1989	1990	1991
January	27	31	31	31	31	31
February	29	18	22	27	18	21
March	24	23	29	29	21	24
April	29	26	25	29	21	18
May	31	31	15	31	5	22
June	30	30	27	29	22	29
July	31	31	31	30	16	26
August	16	31	16	15	14	17
September	21	30	15	24	15	3
October	31	31	16	31	16	-
November	30	17	15	29	16	9
December	31	24	22	31	24	22
Total	330	323	264	336	219	222

Source: Kanwil of Palembang. MOC

Table 2-9-12A Monthly Variation of Passengers Cargoes, etc. transported by Ferrys from Palembang to Kayu Arang in 1991

Month	Number of Trip	Passenger	Cargo (ton)	Vehicle 4wheels	Vehicle 2wheels
January	31	3,601	78	118	13
February	22	2,964	54	114	58
March	29	2,579	93	98	14
April	25	3,788	38	140	33
May	15	2,114	36	78	15
June	27	3,538	50	129	22
July	31	4,148	59	103	21
August	16	1,758	72	83	18
September	15	1,075	57	59	7
October	16	1,368	49	67	10
November	15	1,470	88	68	6
December	22	2,013	90	101	13
Total	264	30,416	764	1158	230
Mean		115	3	5	1
1990	323	47,754	539	1163	391
1989	330	40,936	491	740	359

Source: Kanwil of Palembang. MOC

Table 2-9-13A Monthly Variation of Passengers, Cargoes, etc.  
transported by Ferrys from Palembang to Kayu Arang in 1991

	Number of Trip	Passenger	Cargo (ton)	Vehicle 4wheels	Vehicle 2wheels
January	31	2,949	18	129	23
February	21	2,305	12	90	47
March	24	1,656	24	104	27
April	18	1,791	11	83	25
May	22	1,725	13	75	17
June	29	4,905	17	123	29
July	26	2,662	62	116	27
August	17	1,439	31	70	11
September	3	289	6	15	2
October	0	0	0	0	0
November	9	390	16	50	8
December	22	1,080	18	83	10
Total	222	21,191	228	938	226
Mean		95	1	4	1
1990	219	40,136	55	1,057	304
1989	336	44,583	61	532	256

Source: Kanwil of Palembang, MOC

Table 2-9-14A Monthly Variation of Passengers from Muntok to Palembang  
in 1991

	by Passenger Boat (Express BAHARI)			by General Cargo Ships			Total
	Landing	Boarding	Total	Landing	Boarding	Total	
January	832	1,177	2,009	1,340	1,087	2,427	4,436
February	1,035	1,206	2,241	1,410	1,141	2,551	4,792
March	1,404	1,437	2,841	1,466	1,272	2,738	5,579
April	1,564	1,525	3,089	2,094	1,569	3,663	6,752
May	1,266	1,380	2,646	1,722	1,009	2,731	5,377
June	1,579	1,571	3,150	2,647	1,821	4,468	7,618
July	1,773	1,693	3,466	2,481	1,667	4,148	7,614
August	1,579	1,747	3,326	2,260	1,310	3,570	6,896
September	872	15	887	1,941	1,578	3,519	4,406
October	977	1,020	1,997	1,536	1,311	2,847	4,844
November	1,034	1,054	2,088	1,091	759	1,850	3,938
December	1,407	1,369	2,776	1,178	670	1,848	4,624
Total	15,322	15,194	30,516	21,166	15,194	36,360	66,876
Mean	1,277	2,317	3,593	1,764	1,266	3,030	5,573

Source: Muntok Port Office, MOC

Table 2-9-15A General Cargo Loaded/Unloaded in Muntok Port (1991)

unit:ton

Month	Loading	Unloading	Total
January	848	253	1,101
February	720	128	848
March	804	232	1,036
April	1,235	1,101	2,336
May	878	793	1,671
June	535	119	654
July	730	550	1,280
August	808	380	1,188
September	1,189	890	2,079
October	1,909	981	2,890
November	1,513	856	2,369
December	1,268	890	2,158
Total	12,437	7,173	19,610

Source: Montok Port Office, MOC

Table 2-9-16A Monthly Variation of Passengers, Cargoes, etc. transported by Ferrys from Pankal Balam to Tg. Pandan in 1

Month	Number of Trip	Passenger	Cargo (ton)	Vehicle 4wheels	Vehicle 2wheels
January	8	545	75	12	17
February	7	618	66	9	12
March	9	795	131	6	15
April	9	1,271	88	9	21
May	5	471	38	11	17
June	0	0	0	0	0
July	9	842	59	0	18
August	9	751	69	0	12
September	6	440	57	0	7
October	0	0	0	0	0
November	3	144	22	1	4
December	9	957	100	5	6
Total	74	6,834	705	53	129
Mean		92	9.5	1	2

Source: Pankal Balam Port Office, MOC

Table 2-9-17A Monthly Variation of Passenger, Cargo, etc.  
transported by Ferrys from Tg. Pandan to Pangkal Balam in 1991

	Number of Trip	Passenger	Cargo (ton)	Vehicle 4wheels	Vehicle 2wheels
January	9	602	64	8	8
Feburuary	7	686	50	10	3
March	9	595	34	4	12
April	8	1218	24	18	11
May	6	524	78	5	0
June	0	0	0	0	0
July	9	912	56	0	11
August	9	613	29	0	9
September	5	310	86	0	7
October	0	0	0	0	0
November	3	144	14	12	1
December	8	760	76	17	3
Total	73	6364	511	74	65
Mean		87	7	1	1

Source: Pankal Balam Port Office, MOC

Table 2-9-18A The number of passengers in Pankal Balam Port in 1991  
(not including the passengers by ferry boat)

Month	Passenger Boat LISA		Passenger Boat LINA		Pas. Boat CENTURY		Total	
	Landing	Boarding	Landing	Boarding	Landing	Boarding	Landing	Boarding
January	-	-	580	689	-	-	580	689
Feburuary	15	763	316	230	-	-	331	993
March	886	1,104	812	688	-	-	1,698	1,792
April	1,579	1,540	450	361	72	46	2,101	1,947
May	784	1,343	794	603	120	102	1,698	2,048
June	1,705	1,785	1,288	1,214	178	177	3,171	3,176
July	1,266	1,122	1,095	1,022	-	-	2,361	2,144
August	1,263	1,404	575	536	-	-	1,838	1,940
September	616	806	946	843	-	-	1,562	1,649
October	335	450	805	805	-	-	1,140	1,255
November	723	794	865	865	-	-	1,554	1,659
December	766	347	409	409	-	-	1,192	756
Total	9,938	11,458	8,918	8,265	370	325	19,226	20,048

From/to Jakarta and  
Tanjung Pandan

From/to Tanjung Pandan only

Source: Pankal Balam Port Office, MOC



## 2. Appendix-A : Annual Data of Ferry Transportation Volume





R4:-R5:Jambi City, Jambi-Kaulatungkal

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88	23,864	10,713	3,726	
89	28,308	13,494		
90	29,273	14,168	4,106	
91	13,493	3,334	2,419	3,344

R6:Palembang-Kayuarang

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79	131,070	26,627	22,048	0
80				
81	29,948	983	868	0
82	46,993	746	621	918
83	45,714	1,315	890	699
84	61,328	926	974	723
85	65,337	559	1,071	714
86	101,209	1,101	1,221	1,493
87	100,240	963	2,065	1,590
88	119,181	954	1,884	1,132
89	118,336	954	1,884	1,132
90	81,119	1,567	2,353	650
91	60,122	3,078	2,418	714

R7:Bangka-Belitung

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83	1,275	18	42	37
84				
85	11,723	1,028	57	287
86	20,483	6,708	60	507
87	18,391	885	93	339
88	23,123	165	33	195
89	26,732	1,152	397	0
90	28,068	1,209	416	0
91	11,193	6,212	94	180

R1:Sabang-Malahayati

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978	195,954	0	0	0
79	297,885	0	0	0
80	288,412	0	0	0
81				
82	66,544	210	0	0
83	123,983	0	0	0
84	73,476	445	0	0
85				
86	110,938	3,654	1,736	2,167
87	89,477	4,202	1,772	2,088
88	86,022	5,838	2,010	2,896
89	98,641	9,098	2,511	4,327
90	85,342	8,205	2,867	5,008
91	94,647	8,372	3,879	5,596

R2:Meulaboh-Sinabang

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81	8,619	78	258	0
82	35,185	1,478	704	1,785
83	11,676	739	176	420
84	16,302	510	156	430
85	14,117	1,013	87	321
86	27,870	1,872	98	645
87	18,530	997	177	324
88	21,396	2,240	251	273
89	24,118	2,534	264	294
90	22,052	2,144	203	210
91	19,573	3,254	436	239

R3:Ajibata-Tomok

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87	405,501	7,824	14,949	12,083
88	317,500	5,319	13,034	7,507
89	337,800	8,186	17,903	7,758
90	326,098	22,336	28,554	7,982
91	No Data			

R8:Merak-Panjang

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79	878,134	204,470		
80	834,653	229,670		
81	667,729	175,397		
82	372,765	99,603		
83	262,039	75,103		
84	190,676	93,780		
85	146,831	119,340		
86	114,298	92,234		
87	32,344	89,043		
88	196,195	310,225		
89	85,467	94,566	0	0
90	0	0	0	0
91	No Existence			

R9:Merak-Bakauheni

Year	Passenger 1,000	Cargo 1,000	Vehicle-4 1,000	Vehicle-2 1,000
1978				
79				
80				
81	1,230	284	80	0
82	3,001	794	210	21
83	3,464	988	337	23
84	3,785	1,314	410	28
85	3,890	1,502	486	29
86	4,760	1,779	566	0
87	5,022	1,963	643	35
88	6,509	3,286	707	40
89	7,030	2,668	745	14
90	8,337	3,183	936	11
91	8,137	3,716	996	17

R10:Cilacap-Kalipucang

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79	29,553	463	0	0
80	55,236	164	73	0
81	118,753	689	63	0
82	81,163	473	0	0
83	110,231	872	0	177
84	58,600	361	0	155
85	11,561	92	0	70
86	106,900	374	0	158
87	120,764	180	0	232
88	163,284	765	0	94
89	142,933	128	0	129
90	150,079	134		135
91	69,469	1,399		153

R11:Ujung-Kamal

Year	Passenger: 1,000	Cargo 1,000	Vehicle-4 1,000	Vehicle-2 1,000
1978	3,624	264	417	0
79	4,677	191	546	0
80	4,710	260	408	0
81	3,723	350	445	0
82	6,368	454	555	0
83	6,028	482	547	0
84	9,464	459	555	696
85	9,800	384	602	721
86	10,055	97	698	0
87	10,155	942	641	0
88	11,028	329	693	798
89	12,449	0	731	0
90	13,105	992	1,065	993
91	13,153	1,204	810	927

R12:Jankar-Kalianget

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81	31,263	317	889	0
82	38,556	292	0	1,480
83	27,841	386	0	1,277
84				
85	38,778	711	0	2,207
86	45,986	4,842	1,282	3,636
87	48,356	9,557	2,139	1,968
88	39,090	2,251	495	2,700
89	36,673	3,002	946	2,196
90	55,526	6,408	1,578	3,319
91	65,912	4,529	1,971	3,916

R13:Ketapang-Gilimanuk

Year	Passenger: 1,000	Cargo 1,000	Vehicle-4 1,000	Vehicle-2 1,000
1978	1,171	216	139	0
79	1,305	255	194	0
80	1,380	411	194	0
81	1,617	453	218	0
82	1,560	528	238	25
83	1,493	614	261	38
84	1,774	698	290	36
85	1,951	622	307	44
86	2,139	715	329	0
87	2,296	843	391	0
88	2,721	941	398	0
89	2,939	0	530	0
90	2,692	1,890	658	67
91	3,363	1,929	685	169

R14:Padangbai-Lembar

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978	130,315	6,311	3,395	0
79	167,948	6,688	4,725	0
80	147,552	19,963	8,957	0
81	217,367	47,280	13,839	0
82	242,961	58,622	19,622	0
83	240,962	57,967	17,771	7,587
84	245,669	74,275	16,806	7,234
85	274,349	67,545	19,022	7,987
86	318,617	85,680	22,770	11,329
87	343,303	106,784	27,130	11,531
88	421,666	135,621	29,977	13,269
89	572,774	162,877	35,726	15,793
90	655,352	97,485	48,415	10,872
91	898,599	236,831	76,212	34,325

R15:Lombok-Poto Tano

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978	14,874	172	50	0
79	25,617	1,624	64	0
80	26,831	478	21	0
81	206,611	3,142	2,922	0
82	233,059	3,112	1,869	3,218
83	198,954	1,299	2,044	2,866
84	232,042	2,484	2,301	2,879
85	237,763	3,725	3,137	2,674
86	264,483	6,590	3,714	4,281
87	243,489	4,953	3,368	3,231
88	274,852	5,282	3,613	3,135
89	379,704	0	11,958	0
90	286,250	15,306	11,532	3,241
91	425,664	13,878	31,029	5,446

R16:Sape-Komodo-labuhanbajo

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82	1,398	102	0	0
83	4,192	0	0	0
84	8,396	304	91	62
85	13,162	309	263	60
86	8,564	78	61	13
87	9,859	216	0	0
88	11,764	317	167	76
89	20,542	847	334	0
90	23,700	1,074	449	0
91	22,707	681	749	0

R17:Kupang-Larantuka-1

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85	15,605	156	41	388
86	32,384	178	62	224
87	32,795	686	0	0
88	46,031	1,610	182	289
89	42,703	2,807	502	0
90	45,835	1,390	500	0
91	37,353	837	638	-

R17:Kupang-Larantuka-2

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86	21,081	272	149	
87	29,120	853	308	
88	36,245	1,226	297	
89	45,298	2,640	535	
90	47,408	2,256	748	
91	36,904	1,178	806	

R18:Kupang-Rote

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86	59,636	234	144	1,604
87	48,183	638	46	723
88	67,312	1,295	92	1,058
89	68,370	1,570	1,814	0
90	70,612	685	2,667	0
91	64,929	371	3,213	-

R19:Kupang-Kalabahi

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88	23,456	798	22	60
89	12,944	1,625	125	0
90	12,209	685	121	0
91	12,637	406	158	-

R20:Kupang-Ende

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91	13,413	569	134	-

R21:Kupang-Sabu

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88	16,762	1,038	20	150
89	10,655	1,254	110	0
90	8,921	672	178	0
91	12,686	676	164	-

R22:Larantuka-Waiwerang-Lewoleba-1

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89	21,933	668	433	0
90	9,300	316	322	0
91	6,756	178	322	-

R22:Larantuka-Waiwerang-Lewoleba-2

Year	Passenger	Cargo	Vehicle-4	Vehicle-2 Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88	3,122	150	28	
89	22,482	871	408	
90	9,763	524	362	
91	7,344	346	360	

R23:Pontianak City

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978	1,134,300	28,607	367,505	0
79	1,070,116	53,478	88,514	0
80	2,226,478	1,012	763,560	0
81	1,424,226	1,010	567,587	0
82	533,477	58	31,977	83,348
83	441,916	0	30,616	154,234
84	676,366	0	71,994	160,704
85	257,426	0	8,727	80,404
86	1,574,142	0	129,766	584,366
87	1,194,224	0	42,471	722,160
88	1,172,692	0	83,512	632,676
89	482,594	0	30,042	224,884
90	511,761	0	199,866	416,122
91	925,506	33,878	101,601	440,603



R24:Kupang-Kalabahi

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84	32,957	0	3,185	9,840
85	15,526	0	1,246	4,268
86	69,576	0	9,018	18,594
87	77,608	7,610	27,322	33,700
88	140,164	18,132	21,494	57,772
89	151,738	2,294	7,552	28,423
90	182,275	2,617	19,017	53,481
91	173,907	5,274	10,289	46,569

R25:Kupang-Ende

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978	775	149	2,493	0
79	0	19	636	0
80				
81	22,425	2,469	7,877	0
82	41,010	7,288	14,943	3,392
83	54,164	8,014	10,280	9,243
84	32,909	1,334	1,332	278
85	16,566	910	3,411	892
86	278,714	17,720	42,372	9,302
87	291,656	51,114	42,208	8,458
88	223,386	38,132	45,764	10,360
89	224,406	22,127	28,891	4,067
90	232,318	18,072	26,077	9,721
91	215,209	22,469	27,018	8,140

R26:Kupang-Sabu

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88	55,865	6,830	8,198	23,355
89	59,106	2,915	3,919	11,533
90	60,003	816	8,641	23,559
91	20,271	2,090	3,183	6,293

R27:Penajam-Balikpapan

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85	6,992	4,287	6,203	1,470
86	21,918	11,422	14,517	5,869
87	117,130	18,436	28,828	18,580
88	124,627	22,071	30,056	15,988
89	109,333	12,090	21,500	10,709
90	151,928	14,947	33,340	12,260
91	150,254	18,188	36,950	11,435

R28:Bajoe-Kolaka

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978	54,933	6,266	807	0
79	103,766	23,670	305	0
80	120,798	14,827	3,426	0
81	158,828	32,078	4,555	0
82	147,872	36,740	932	2,637
83	166,637	26,948	772	2,124
84	104,959	15,811	588	1,143
85	109,456	10,516	830	1,174
86	186,119	15,333	2,730	1,628
87	204,480	37,701	7,686	1,839
88	241,286	40,102	8,420	1,932
89	177,905	30,182	6,830	1,462
90	264,303	36,344	12,240	2,300
91	296,094	42,859	14,672	1,995

R29:Bira-Pamatata

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81	28,039	987	2,633	0
82	16,635	1,321	1,210	1,187
83	22,975	1,857	2,277	2,348
84	15,414	1,276	1,238	1,731
85	16,465	956	1,507	2,058
86	53,331	3,523	2,283	1,650
87	44,903	3,281	4,270	3,268
88	49,615	2,848	4,623	3,311
89	62,562	4,074	6,404	3,905
90	37,954	2,191	3,413	2,320
91	47,440	6,690	5,596	2,960

R30:Torubulu-Tampo

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87	17,823	233	1,071	732
88	31,837	1,151	3,238	0
89	29,133	1,678	2,783	845
90	30,589	1,761	2,922	887
91	44,974	2,704	3,556	1,043

R31:Baubau-Wara

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89	8,366	14	221	239
90	8,784	14	232	250
91	61,001	1,911	2,240	3,193

R32:Luwuk-Sabang-Salkan

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84	12,630	171	343	0
85	5,660	73	93	0
86				
87	16,072	396	62	176
88	17,216	234	192	150
89	9,404	966	106	209
90	9,874	1,014	111	219
91	7,282	1,561	197	247

R33:Poka-Galala-1

Year	Passenger *1000	Cargo *1000	Vehicle-4 *1000	Vehicle-2 *1000
1978	0	0	0	0
79	104	24	0	0
80	135	0	0	0
81	459	0	39	0
82	460	0	222	0
83	251	0	136	0
84	396	0	230	0
85	544	0	0	0
86	1,020	0	103	271
87	449	0	90	164
88	1,287	1	97	190
89	2,683	2	183	293
90	3,788	5	559	310
91	3,554	2	213	324

R33:Poka-Galala-2

Year	Trip No.	Passenger *1000	Cargo *1000	Vehicle-4 *1000	Vehicle-2 *1000
1978	10,500	114		41	61
79	10,800	181		35	98
80	11,400	412		69	104
81	12,600	363		47	70
82	13,200	389		81	98
83	13,670	370		85	127
84	16,752	389		114	145
85	24,872	666		129	314
86	19,852	564		112	313
87	22,656	471		94	192
88	23,904	1,851		144	276
89	29,148	2,479		167	267
90	39,476	3,196		235	277
91	44,302	3,658		227	311

R34:Hunimua-Waipirit-1

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85	9,746	606	615	0
86	64,462	2,856	1,857	3,019
87	126,077	3,320	3,058	4,029
88	133,506	2,765	2,716	3,234
89	171,697	3,747	4,093	4,775
90	274,320	7,112	14,272	7,552
91	162,258	2,822	5,694	4,109

R34:Hunimua-Waipirit-2

Year	Trip No.	Passenger	Cargo	Vehicle-4	Vehicle-2
1978					
79					
80					
81					
82					
83					
84					
85					
86	835	65,867	2,931	1,503	3,454
87	845	87,276	2,779	2,023	2,838
88	2,106	196,630	4,429	4,443	4,710
89	2,036	196,059	4,166	4,730	5,383
90	2,818	300,141	6,130	7,090	7,514
91	4,031	348,368	5,342	10,510	9,194

R35: Sorong-Jeffman

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79	25,274	71	0	0
80	28,795	120	0	0
81	53,778	572	0	0
82	33,286	238	0	0
83	19,905	478	0	0
84	21,060	202	0	0
85	11,476	799	0	0
86	11,232	1,038	0	0
87	15,441	14,583	0	0
88	21,303	208	0	0
89	37,787	1,068	0	0
90	39,771	1,121	0	0
91	41,109	1,053	-	-

R36: Merauke-Bupul

Year	Passenger	Cargo	Vehicle-4	Vehicle-2
1978				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88	9,340	336	0	0
89	11,378	2,113	0	0
90	7,106	101	0	0
91	12,059	2,304	-	-

\*Source: DGLT



### 3. Appendix-B: Ferry Passenger's O-D Data (1988)





Origin		Destination		Passenger Vol.	%
Code	Area Name	Code	Area Name		
Route: Hunimua~Waipirit					
8171	Kod. Ambon	74		114	0
8171		8102	Kab. Maluku Tengah	60,034	99
8171		81		91	0
8171		82		443	1
				60,682	100
Route: Waipirit~Hunimua					
8102	Kab. Maruku Tengah	33		91	0
8102		35		91	0
8102		81		13,180	18
8102		8171	Kod. Ambon	60,665	82
8102		82		273	0
				74,300	100
Route: Kupang~Larantuka, ~Kalabahi, Roti, Sabu					
5303	Kab. Kupang	12		190	0
5303		34		74	0
5303		35		646	1
5303		51		87	0
5303		52		475	0
5303		5303	Kab. Kupang	86,008	70
5303		5307	Kab. Alor	11,345	9
5303		5308	Kab. Flores Timur	18,901	15
5303		53		6,295	5
5303		74		114	0
				123,138	100
Route: Kalabahi~Kupang					
5307	Kab. Alor	31		131	2
5307		34		131	2
5307		35		131	2
5307		51		150	2
5307		52		262	3
5307		5303	Kab. Kupang	7,066	82
5307		53		750	9
				8,621	100
Route: Larantuka~Kupang					
5308	Kab. Flores Timur	31		228	1
5308		35		228	1
5308		5203	Kab. Lombok Timur	70	0
5308		5303	Kab. Kupang	16,758	92
5308		53		570	3
5308		54		114	1
5308		73		228	1
5308		82		89	0
				18,285	100

Route:	Kolaka~Bajoe				
7403	Kab. kendari	35		486	1
7403		72		486	1
7403		7308	Kab. Bone	5,506	14
7403		7371	Kod. U. P.	14,412	38
7403		73		17,248	45
				38,138	100
Route:	Kolaka~Bajoe				
7404	Kab. Kolaka	16		810	1
7404		18		835	1
7404		31		810	1
7404		35		162	0
7404		51		972	1
7404		52		162	0
7404		54		324	0
7404		7308	Kab. Bone	22,833	31
7404		7371	Kod. U. P.	21,862	30
7404		73		24,538	33
				73,308	100
Route:	Bajoe~Kolaka				
7308	Kab. Bone	73		164	1
7308		7403	Kab. Kendari	5,723	22
7308		7404	Kab. Kolaka	17,855	68
7308		74		2,404	9
				26,146	100
Route:	Bajoe~Kolaka, *Bira~Pamatata				
7371	Kod. Ujungpandang	16		1,670	3
7371		18		1,670	3
7371		7301	*Kab. Selayar	21,230	37
7371		73	*	56	0
7371		7403	Kab. Kendari	15,452	27
7371		7404	Kab. Kolaka	13,735	24
7371		74		3,777	7
7371		82		443	1
				58,033	100
Route:	Pamatata~Bira				
7301	Kab. Selayar	52		56	0
7301		72		114	1
7301		7371	Kod. Ujungpandang	14,841	73
7301		73		4,496	22
7301		74		801	4
				20,308	100

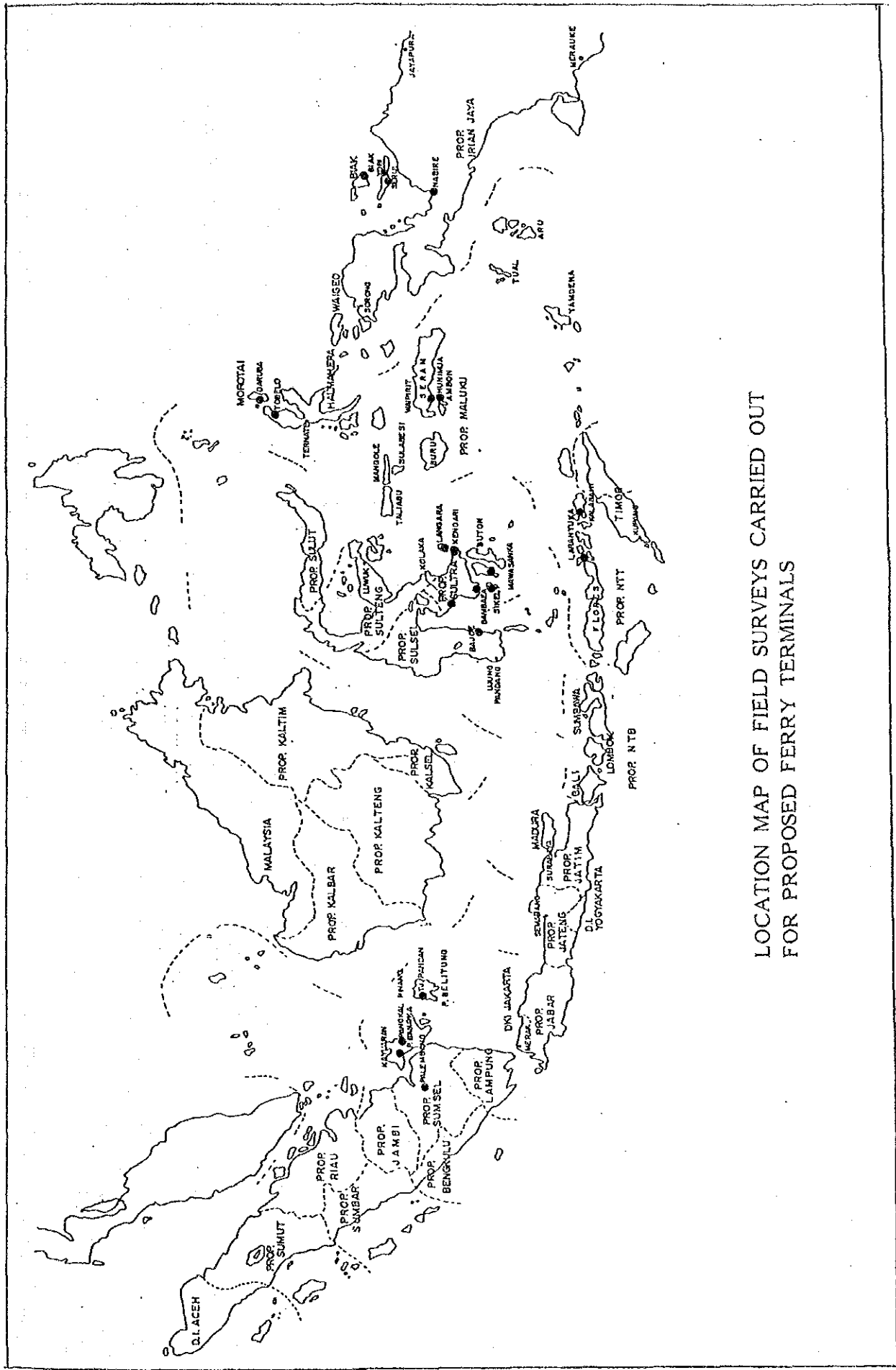
Route:	Kayuaran~Palembang, Pangkalpinang~Tanjungpandang				
1607	Kab. Bangka	11		175	0
1607		12		743	1
1607		13		531	1
1607		15		637	1
1607		1671	Kod. Palembang	17,726	34
1607		16		19,903	38
1607		17		530	1
1607		18		2,017	4
1607		31		2,257	4
1607		32		2,202	4
1607		33		1,591	3
1607		34		1,247	2
1607		35		2,440	5
				51,999	100
1672	Kod. Pangkal Pinang	12		318	1
1672		14		106	0
1672		15		424	1
1672		1671	Kod. Palembang	15,815	47
1672		16		6,285	19
1672		17		743	2
1672		18		1,910	6
1672		31		1,964	6
1672		32		1,168	3
1672		33		1,565	5
1672		34		1,168	3
1672		35		1,804	5
1672		52		425	1
				33,695	100
1608	Kab. Belitung	13		142	1
1608		15		143	1
1608		1607	Kab. Bangka	6,582	45
1608		1671	Kod. Palembang	1,772	12
1608		1672	Kod. Pangkal P.	3,593	25
1608		16		886	6
1608		17		36	0
1608		18		425	3
1608		31		71	0
1608		32		753	5
1608		35		106	1
				14,509	100
Route:	Bakaheuni~Merak, Others				
1671	Kod. Palembang	16		35,165	10
1671		31		174,070	50
1671		32		73,294	21
1671		33		29,932	9
1671		34		10,384	3
1671		35		22,600	6
1671		51		1,222	0
1671		52		1,222	0
1671		71		611	0
1671		73		611	0
				349,111	100

Source: O-D Study 1988, MOC

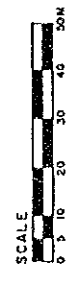
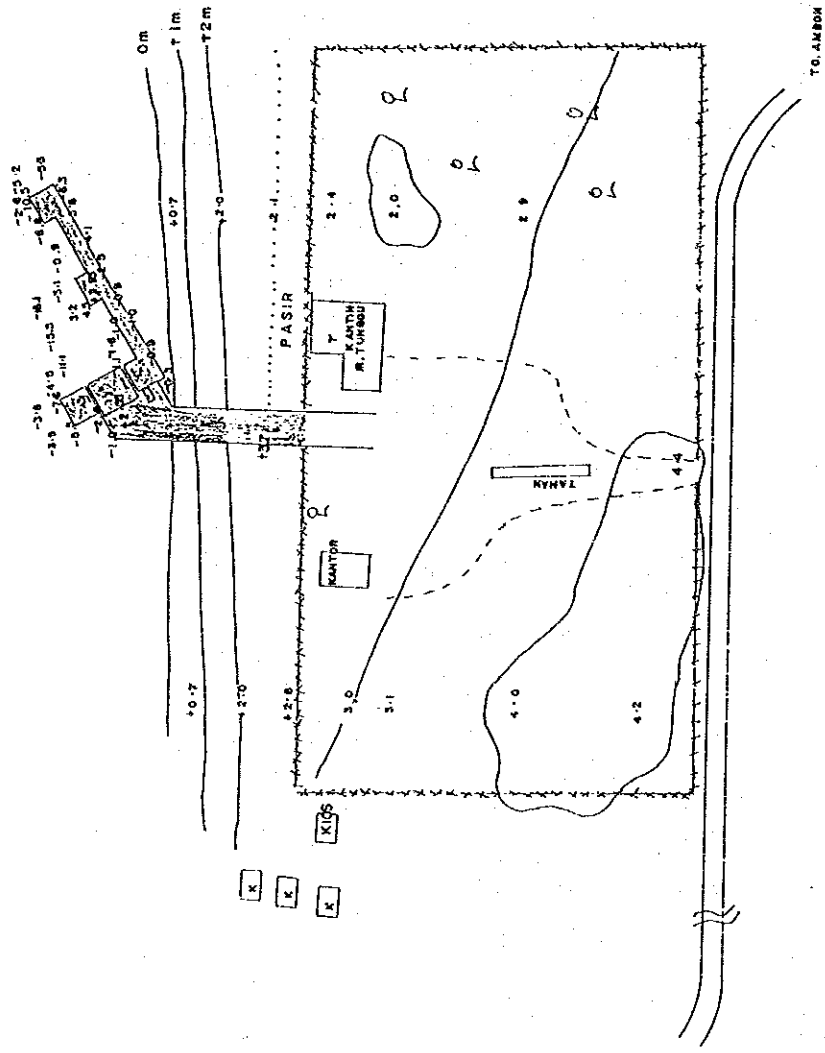
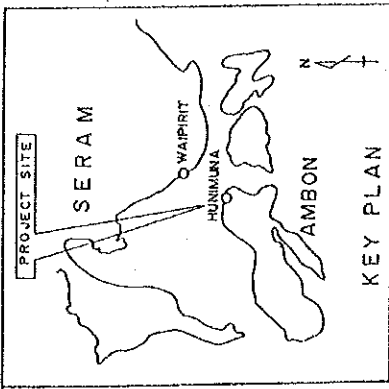


#### 4. Appendix-C: Plans of the Terminal Site Alternatives



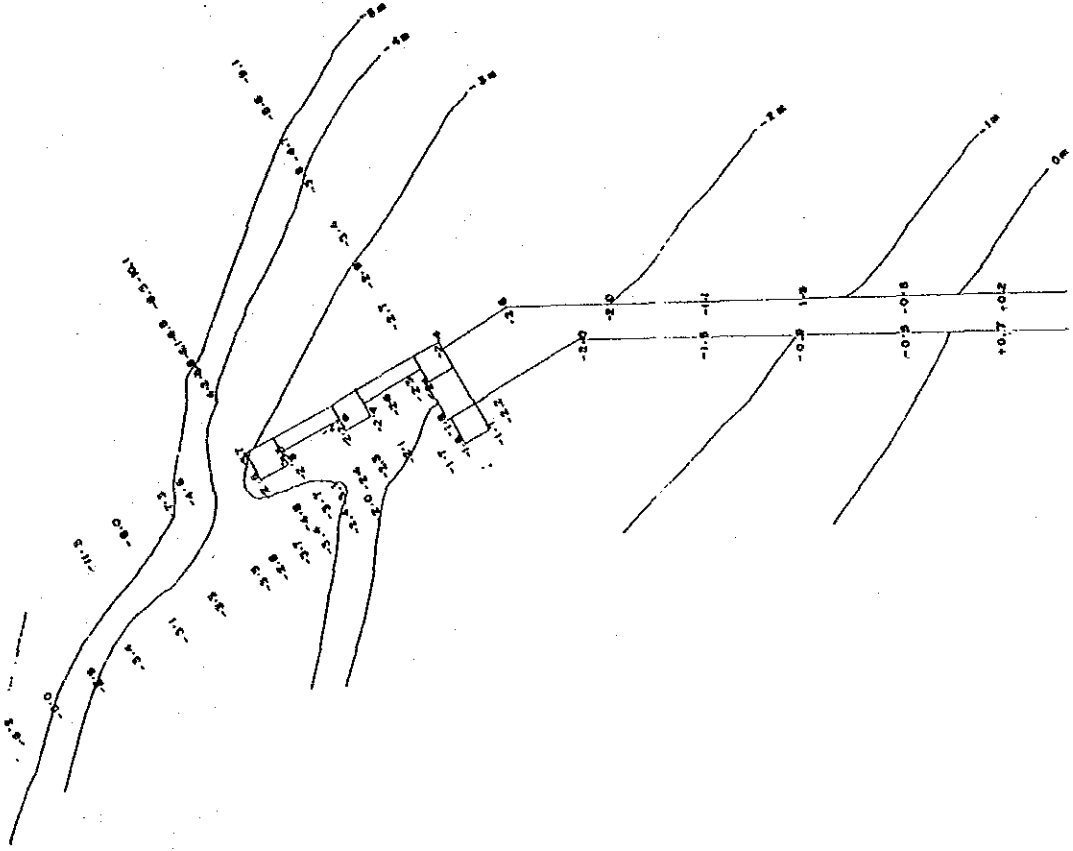
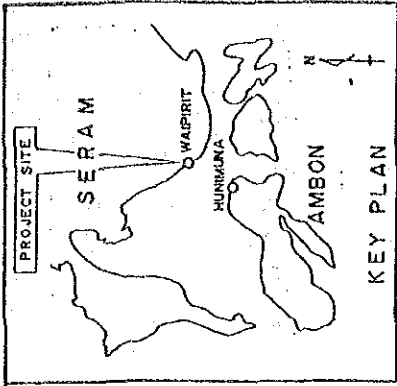


LOCATION MAP OF FIELD SURVEYS CARRIED OUT  
FOR PROPOSED FERRY TERMINALS

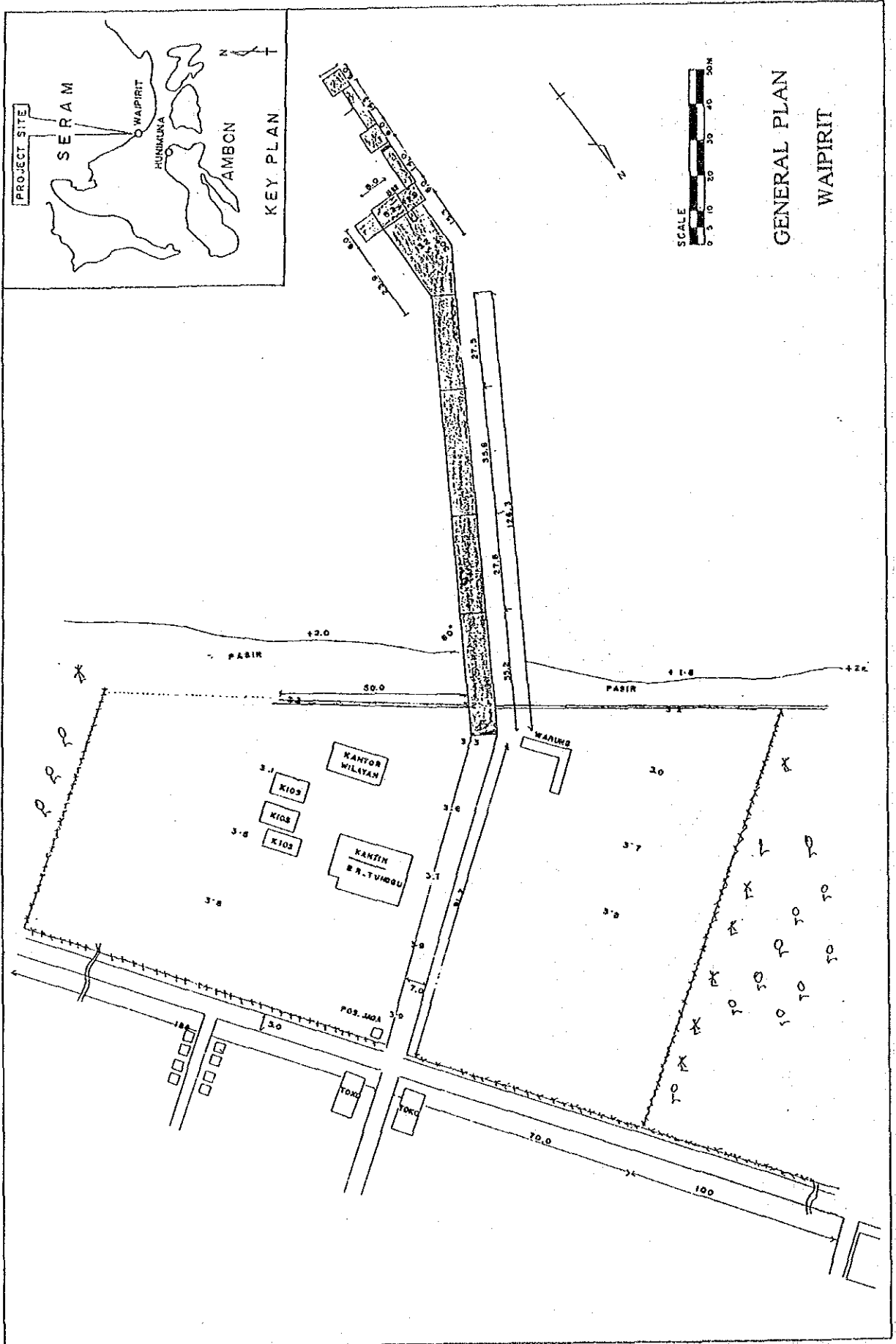


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HUNIMUA





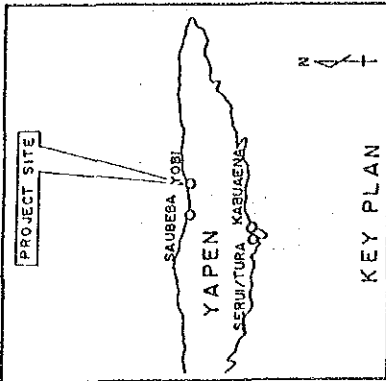
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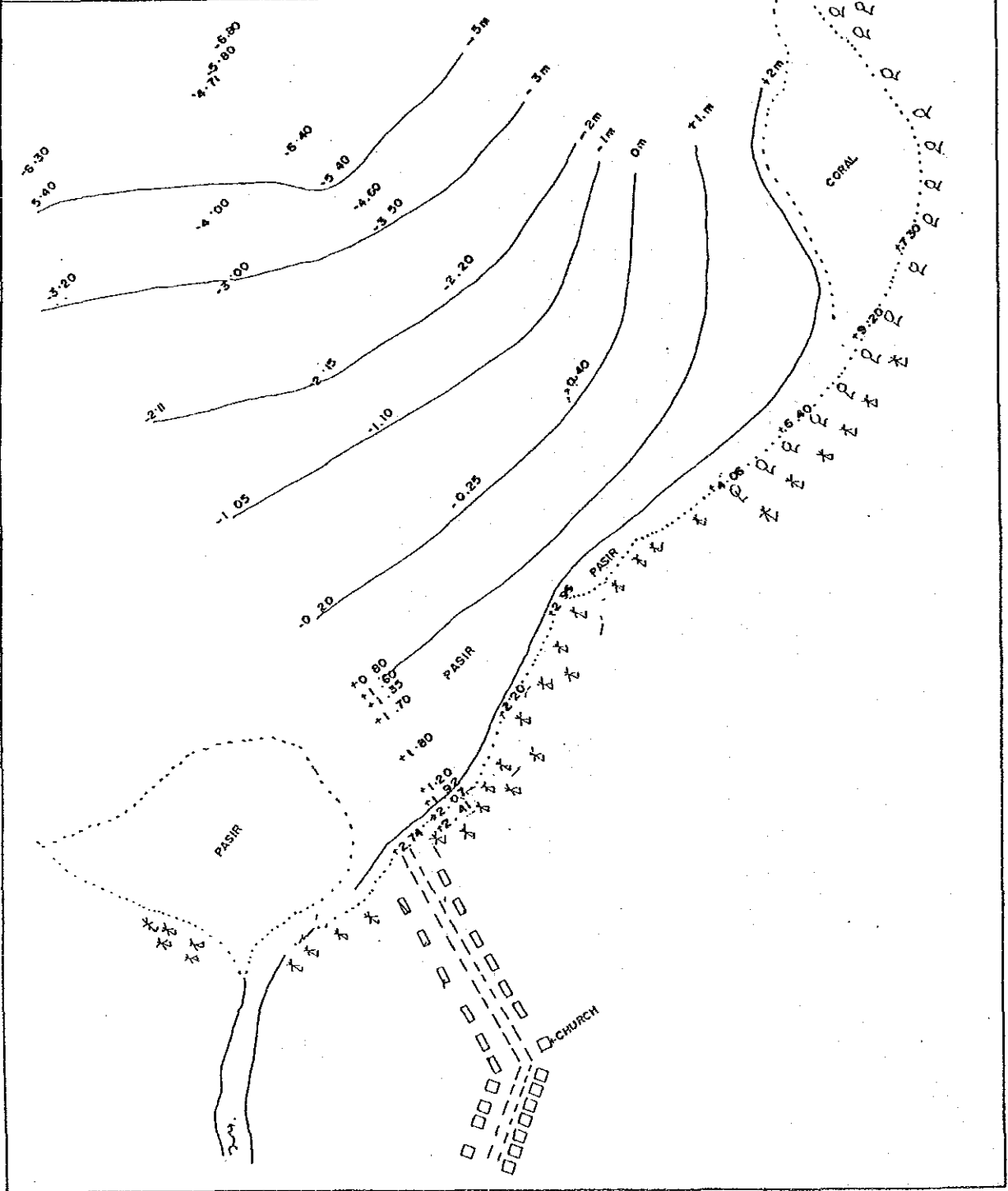
GENERAL PLAN

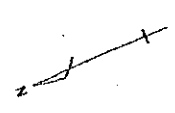
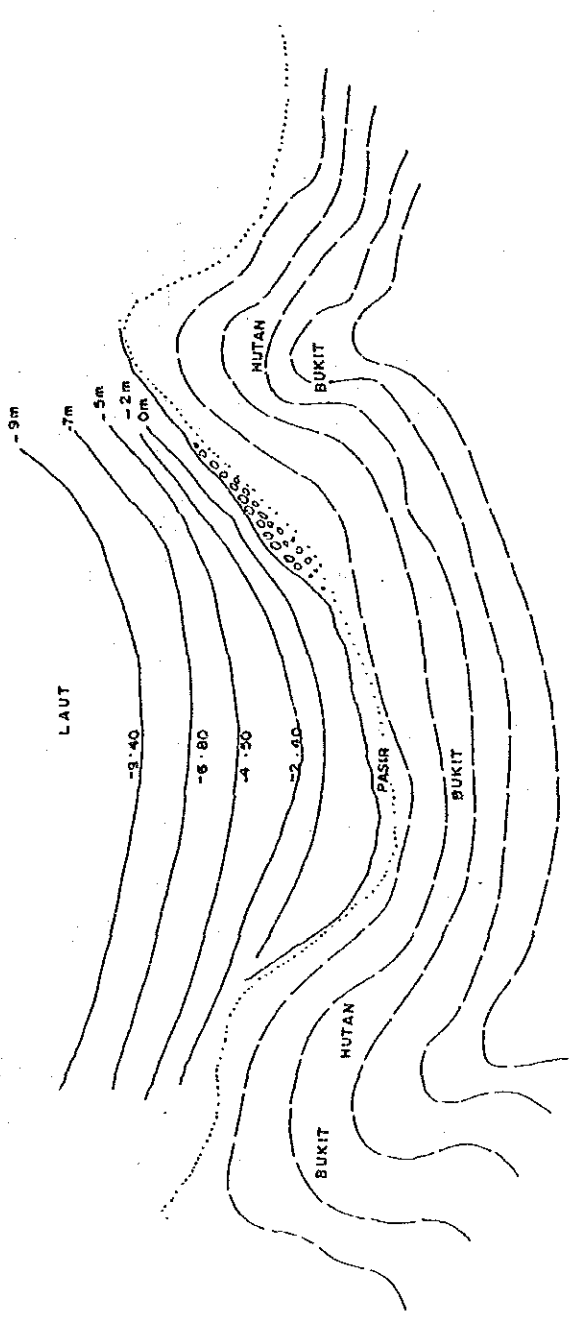
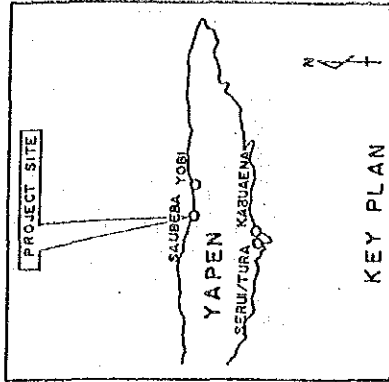
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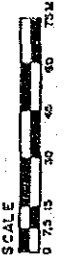
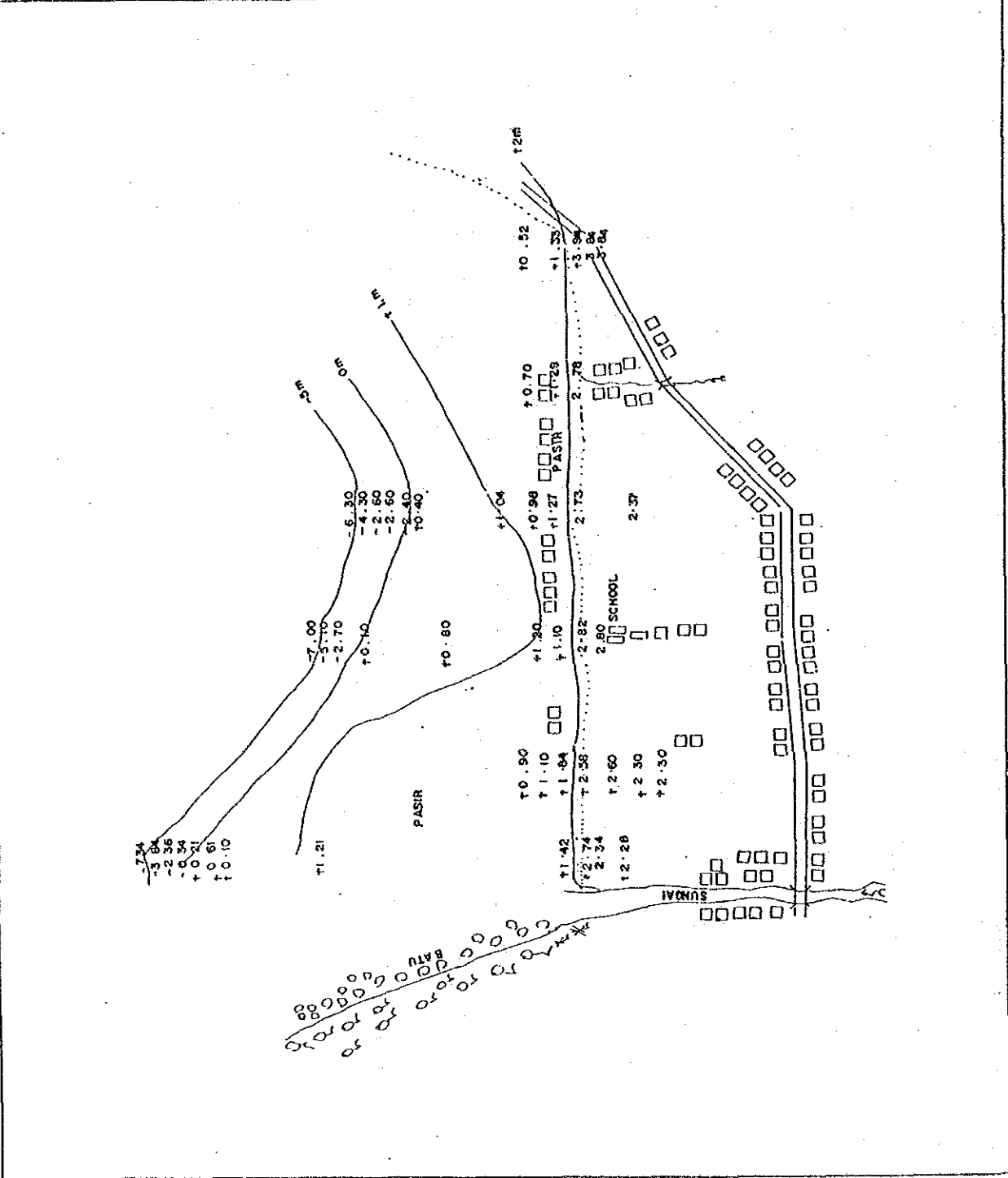
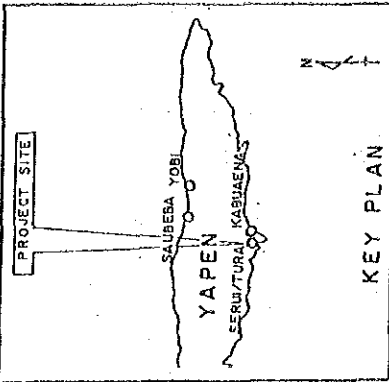
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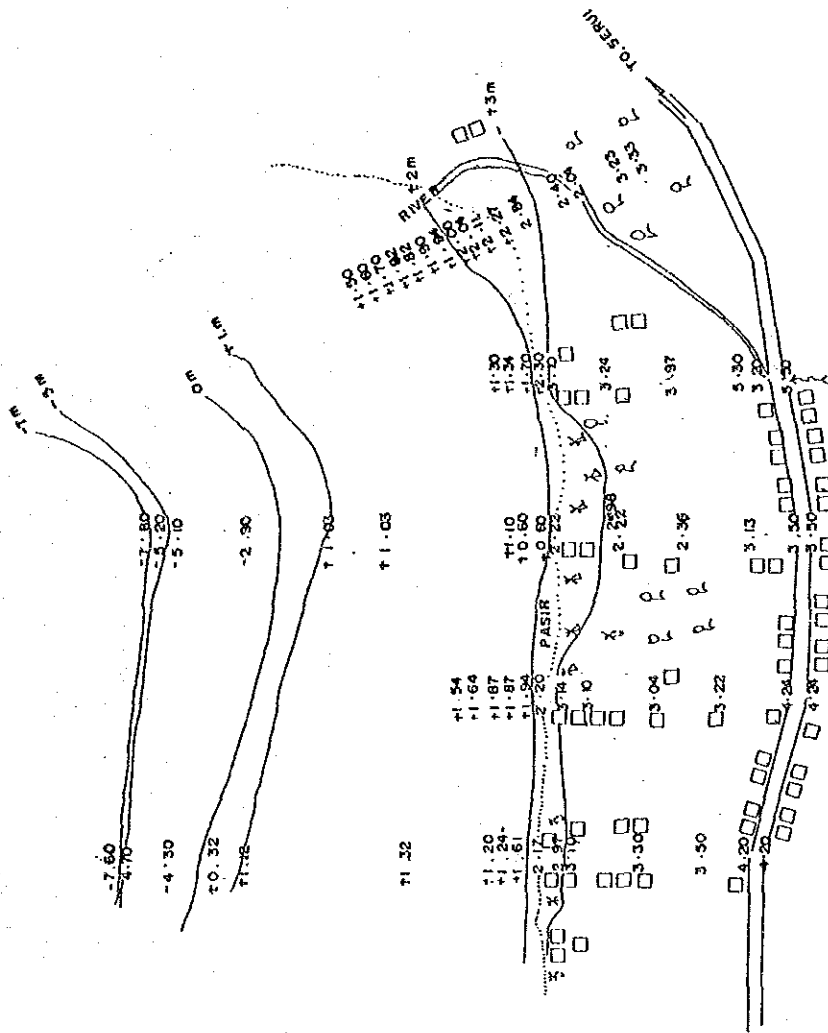
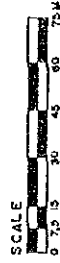
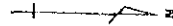
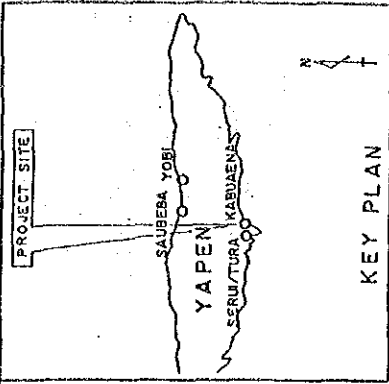


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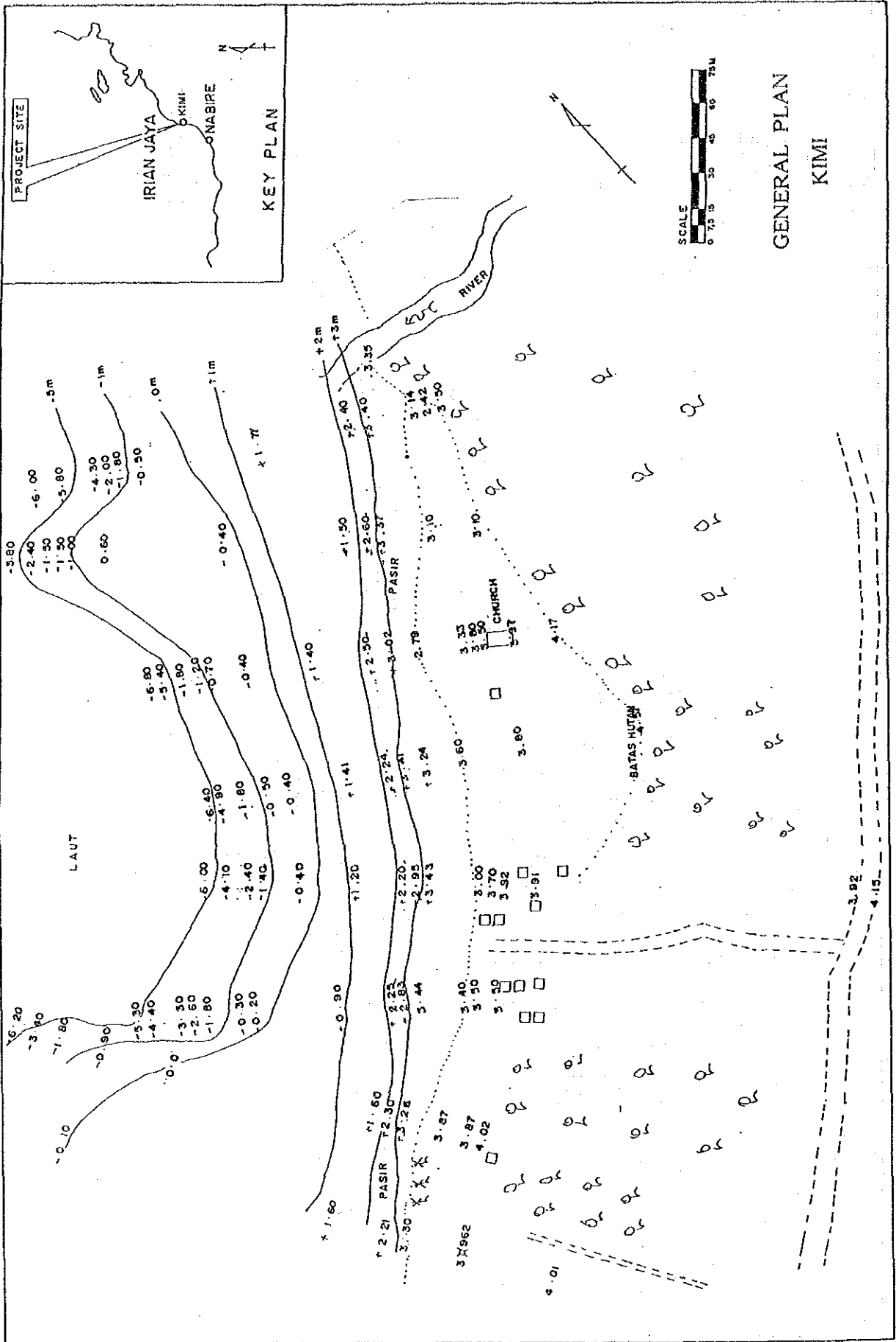
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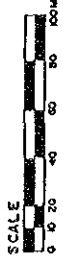
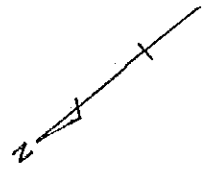
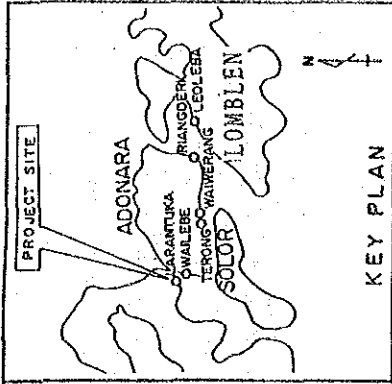
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TURA



GENERAL PLAN  
KABUAENA

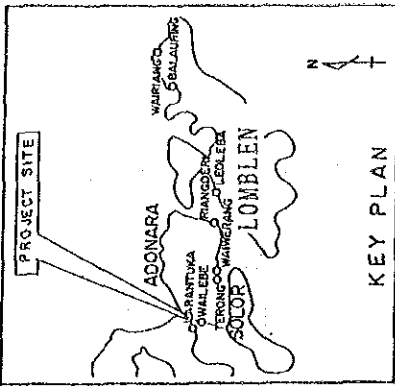




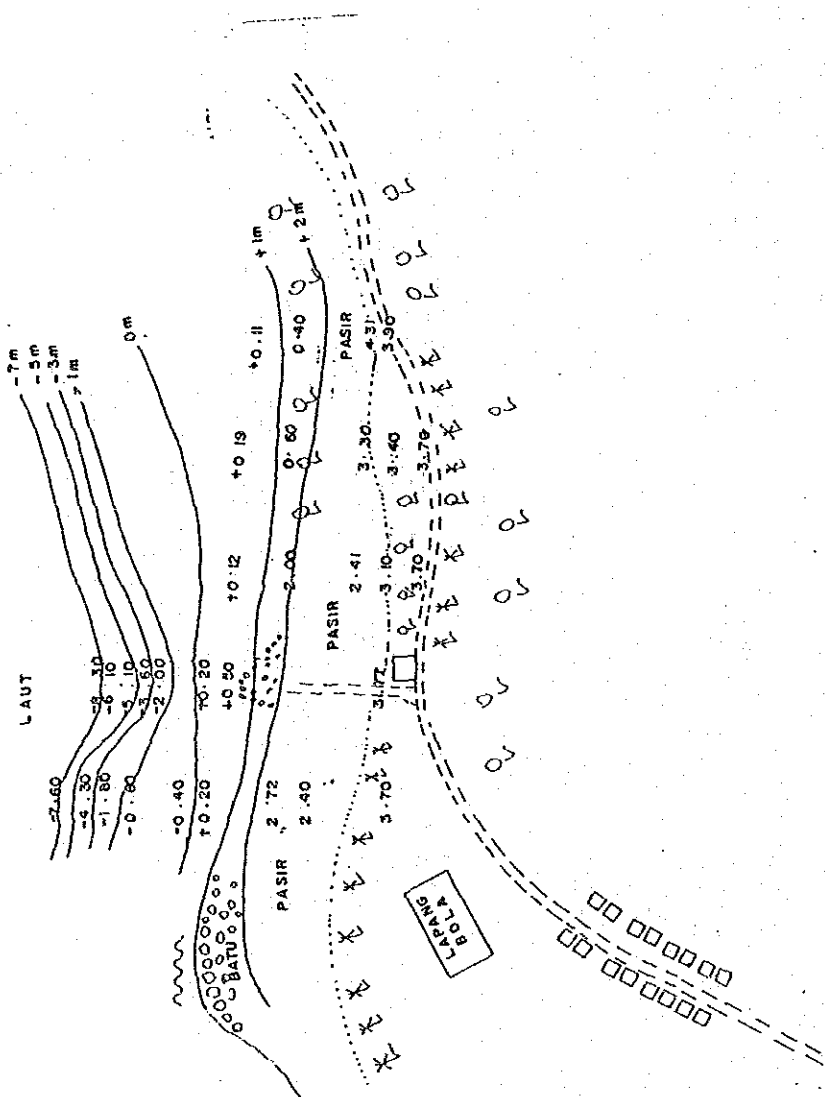


GENERAL PLAN  
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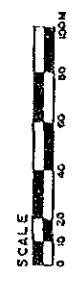
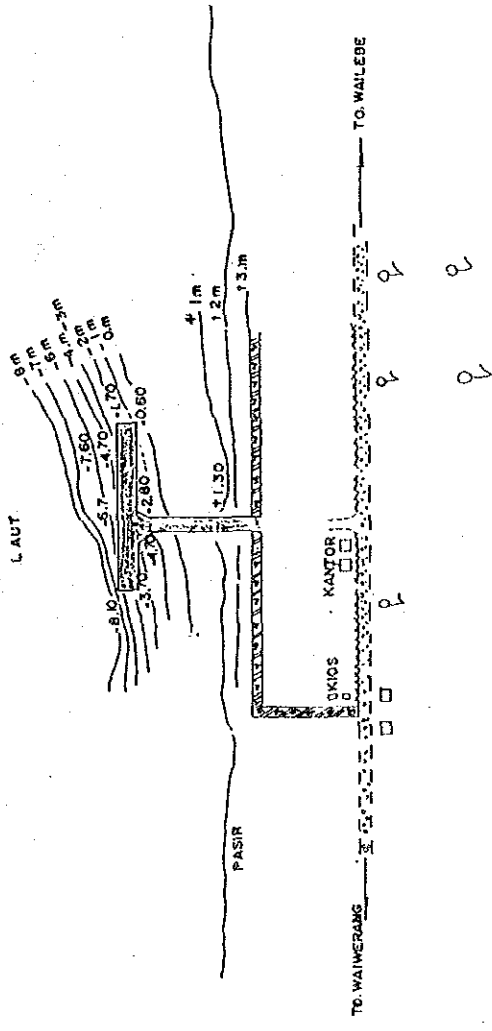
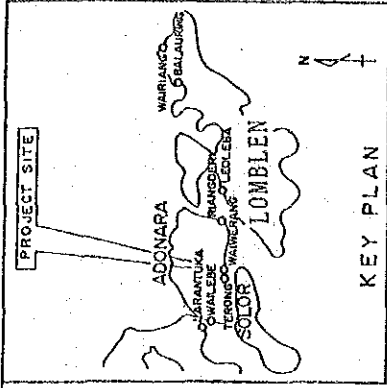




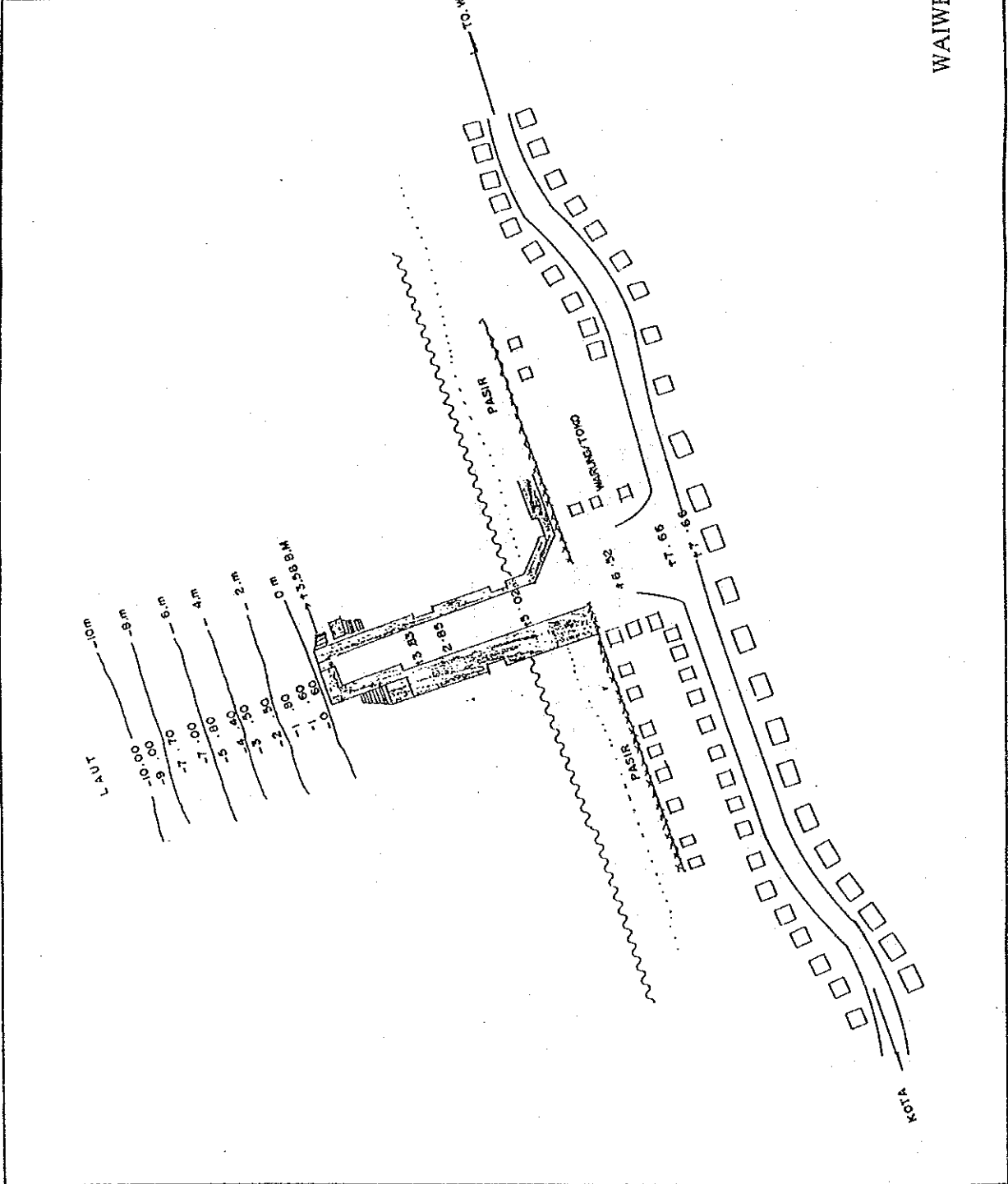
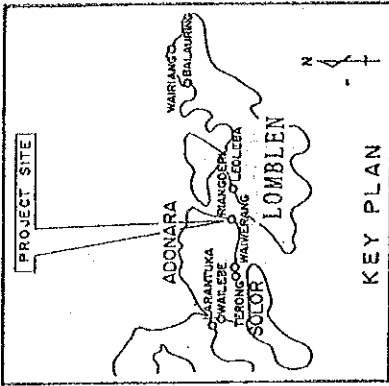
KEY PLAN

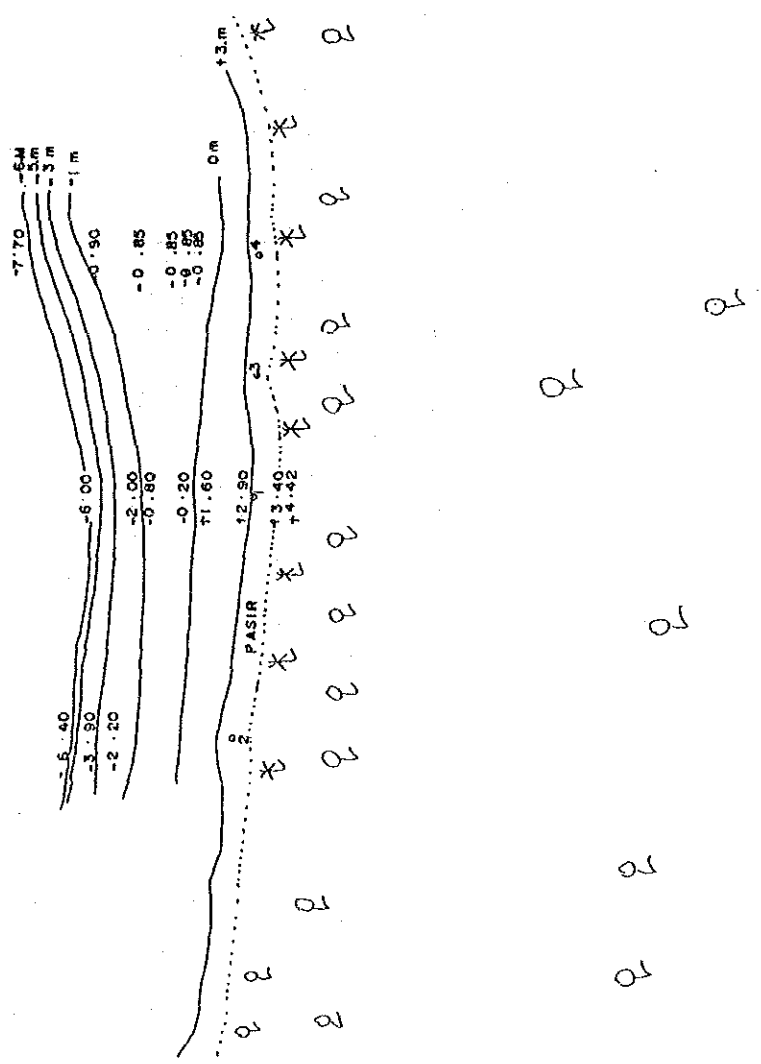
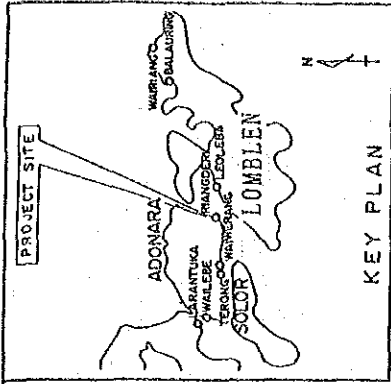


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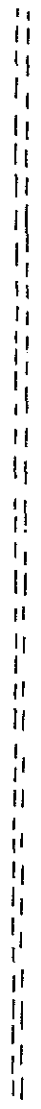


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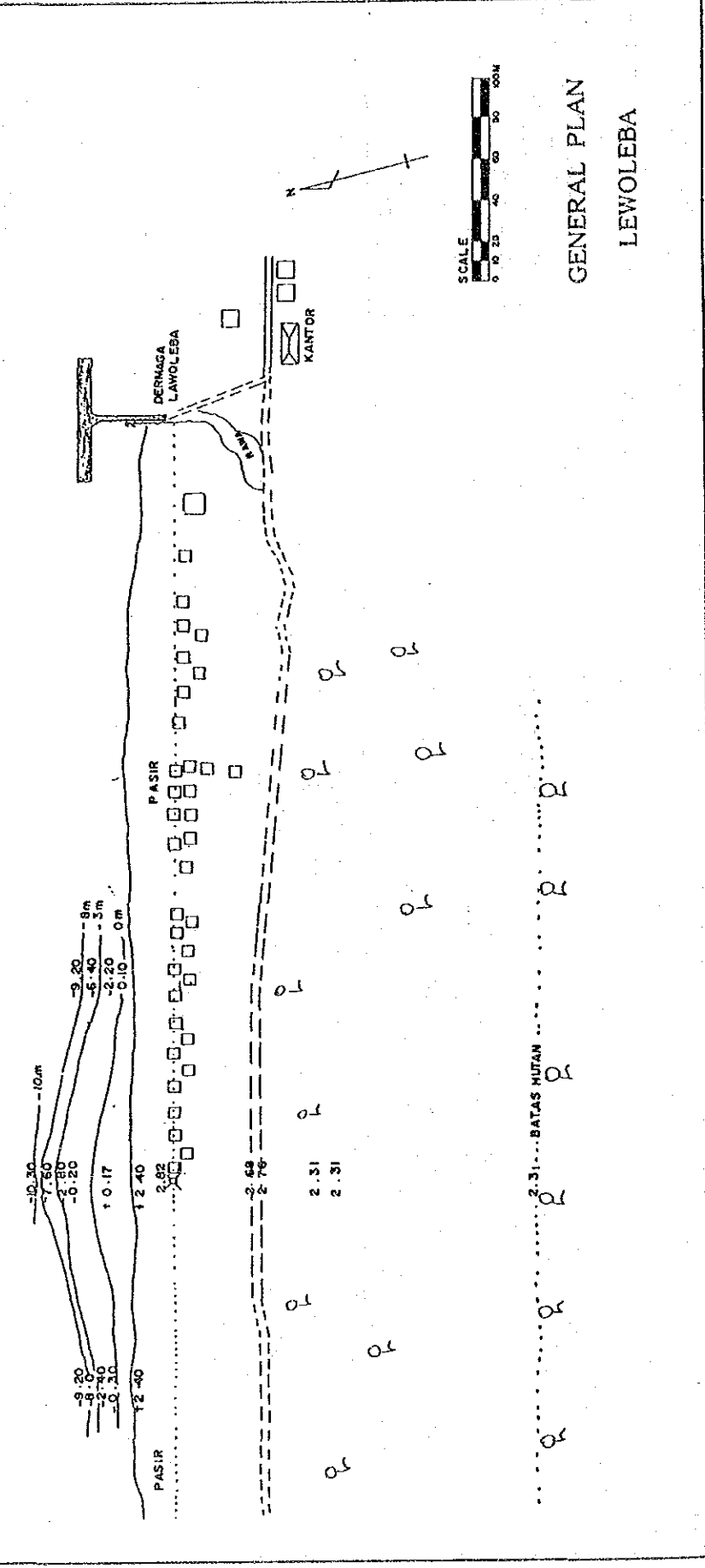
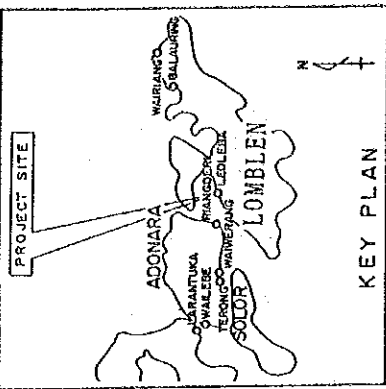


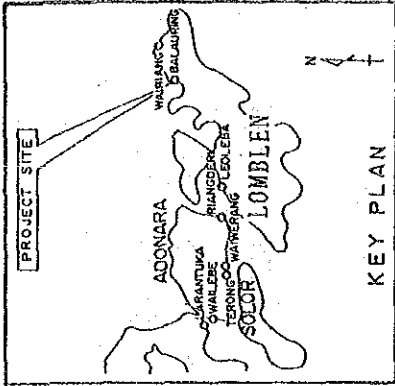


TO. WAIWERANG



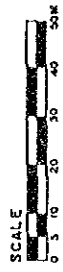
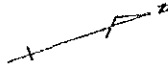
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RIANG DERI



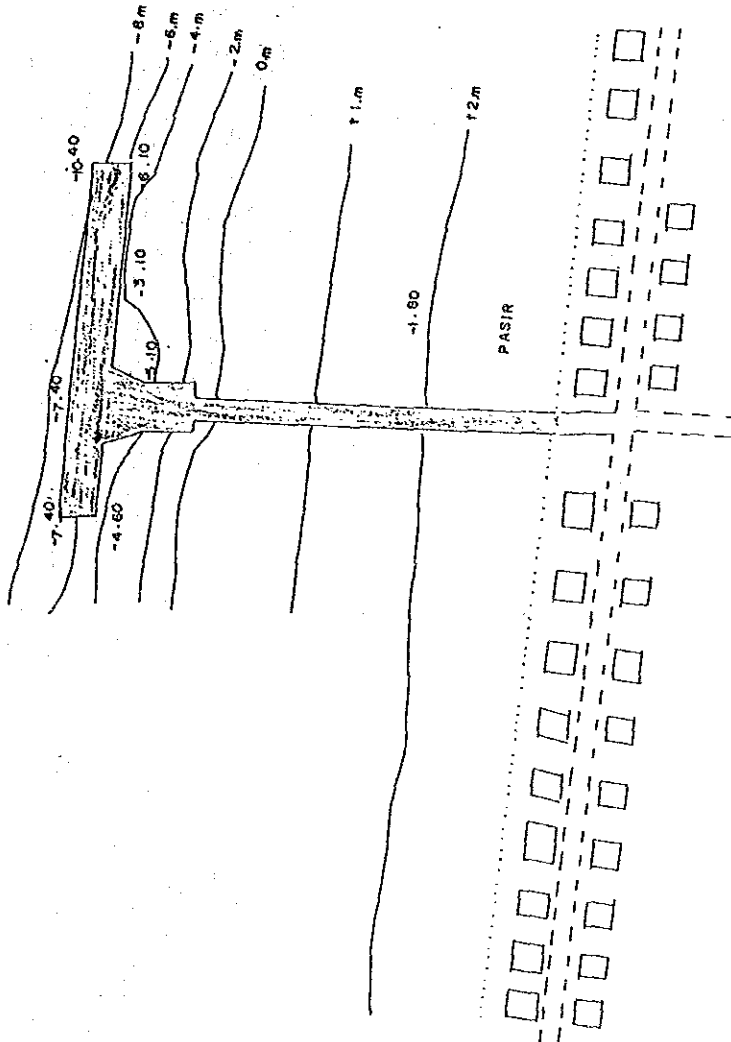


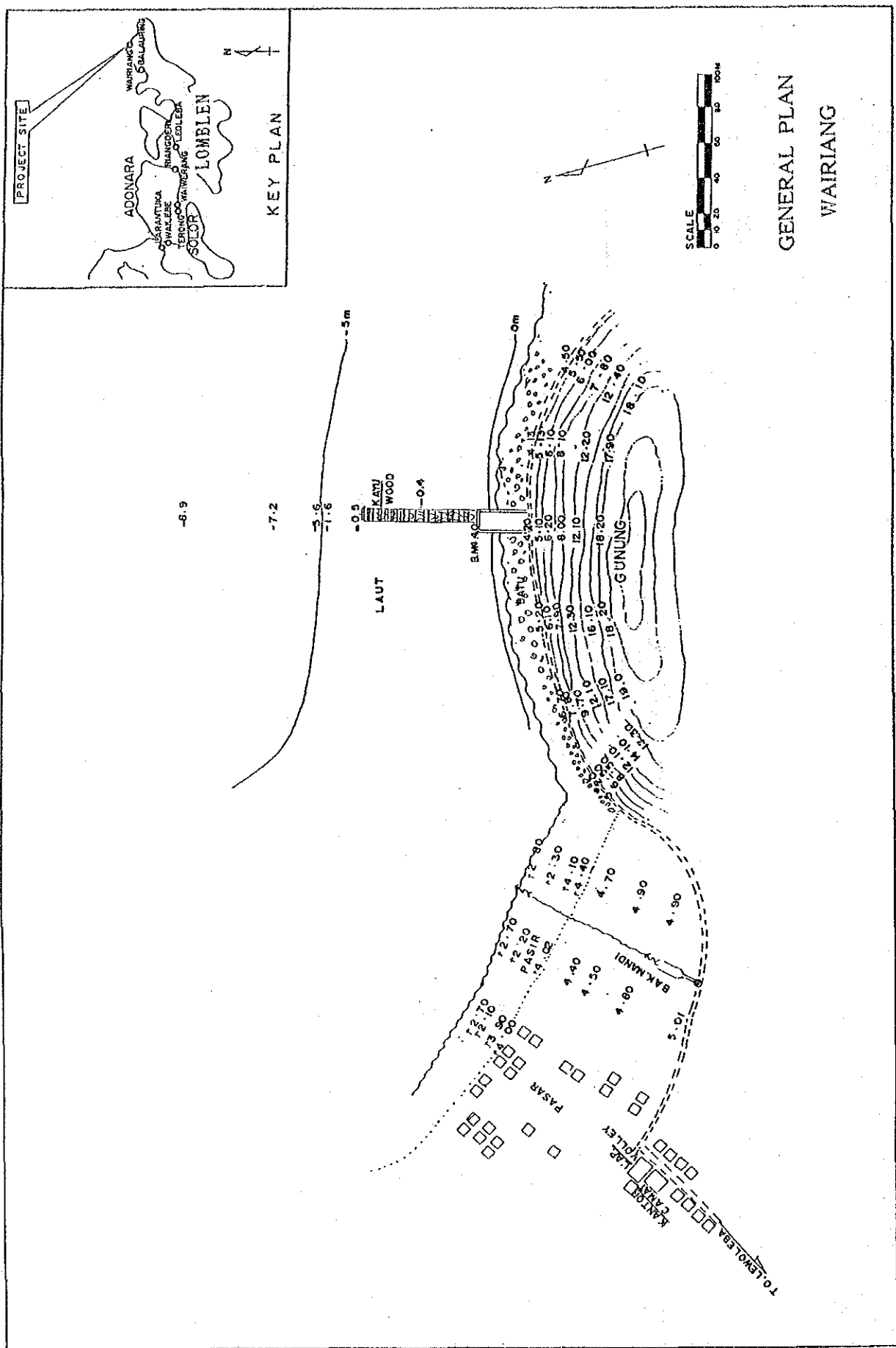
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KEY PLAN

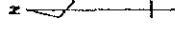
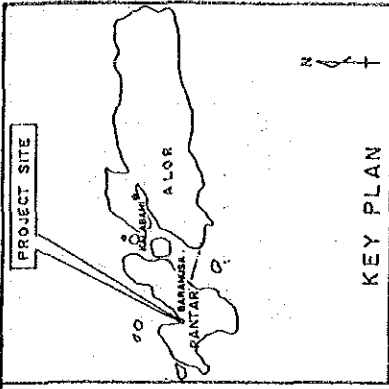


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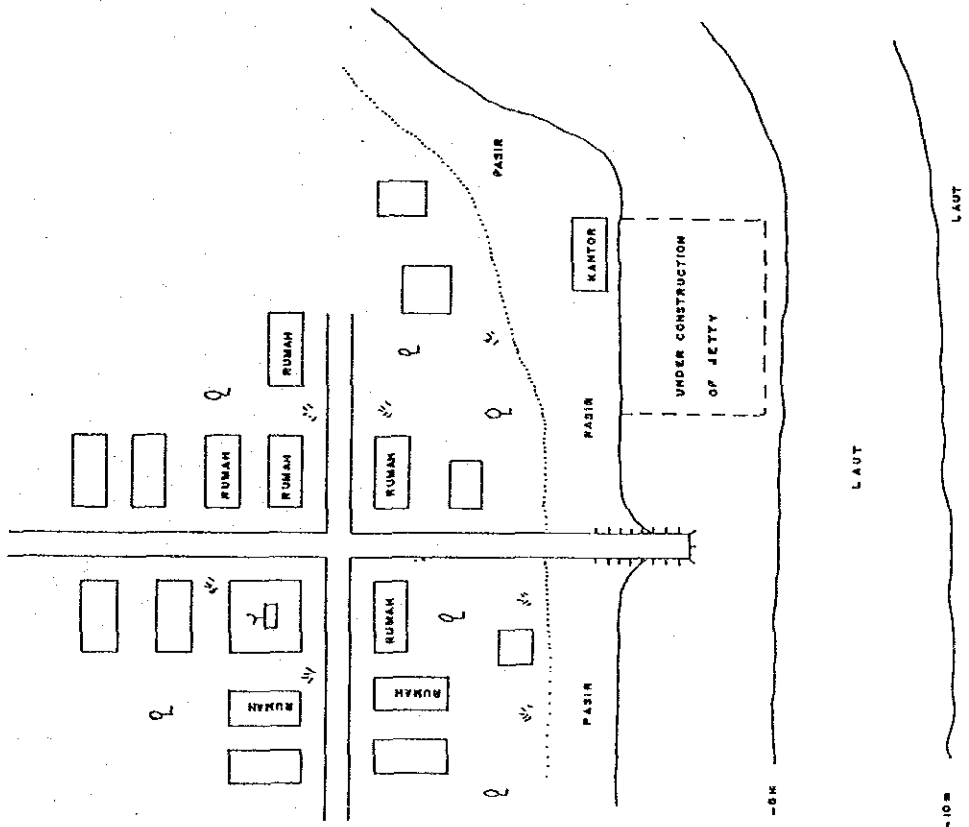


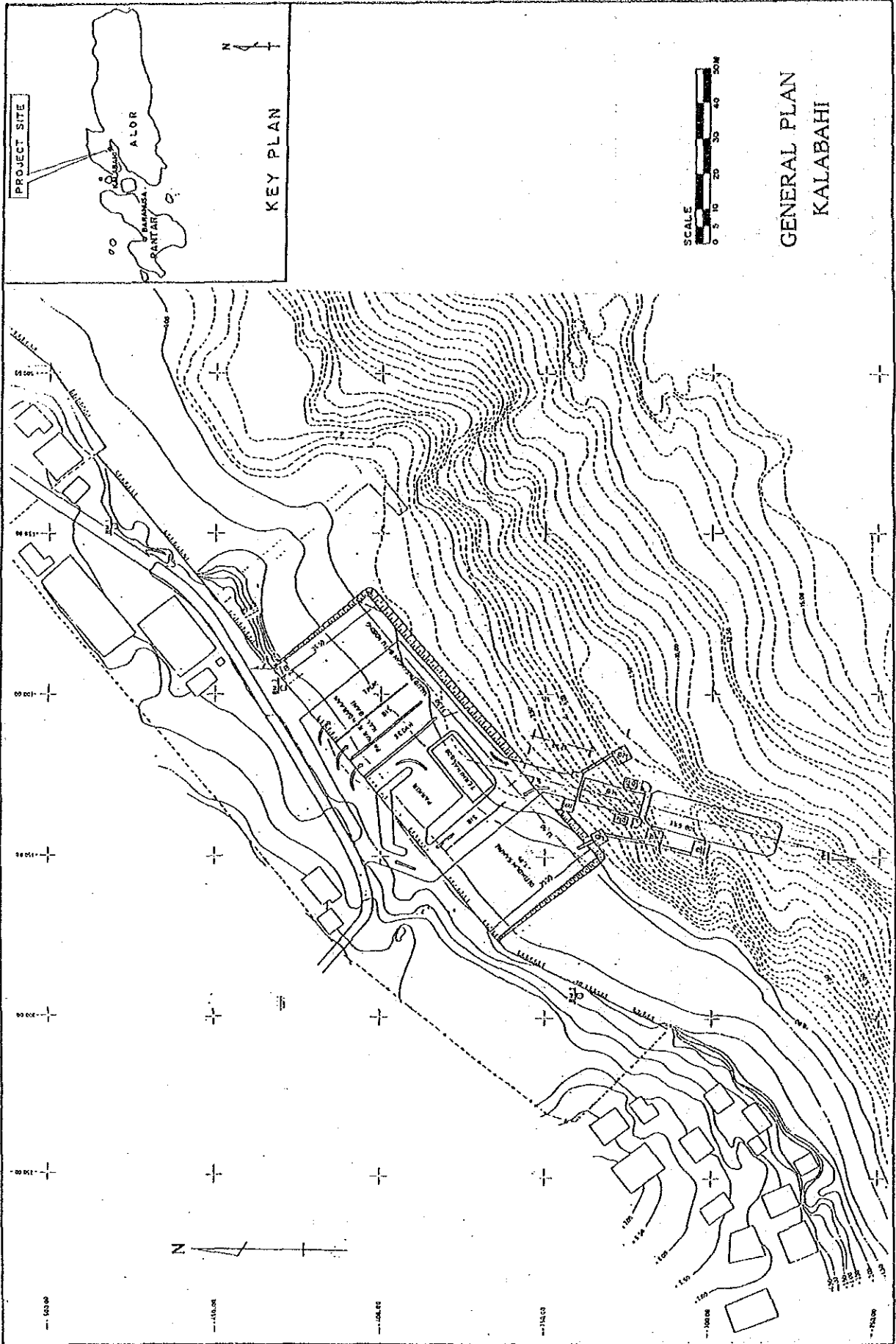




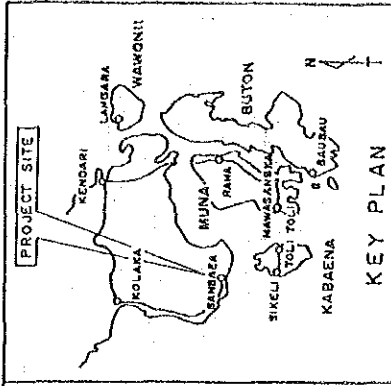


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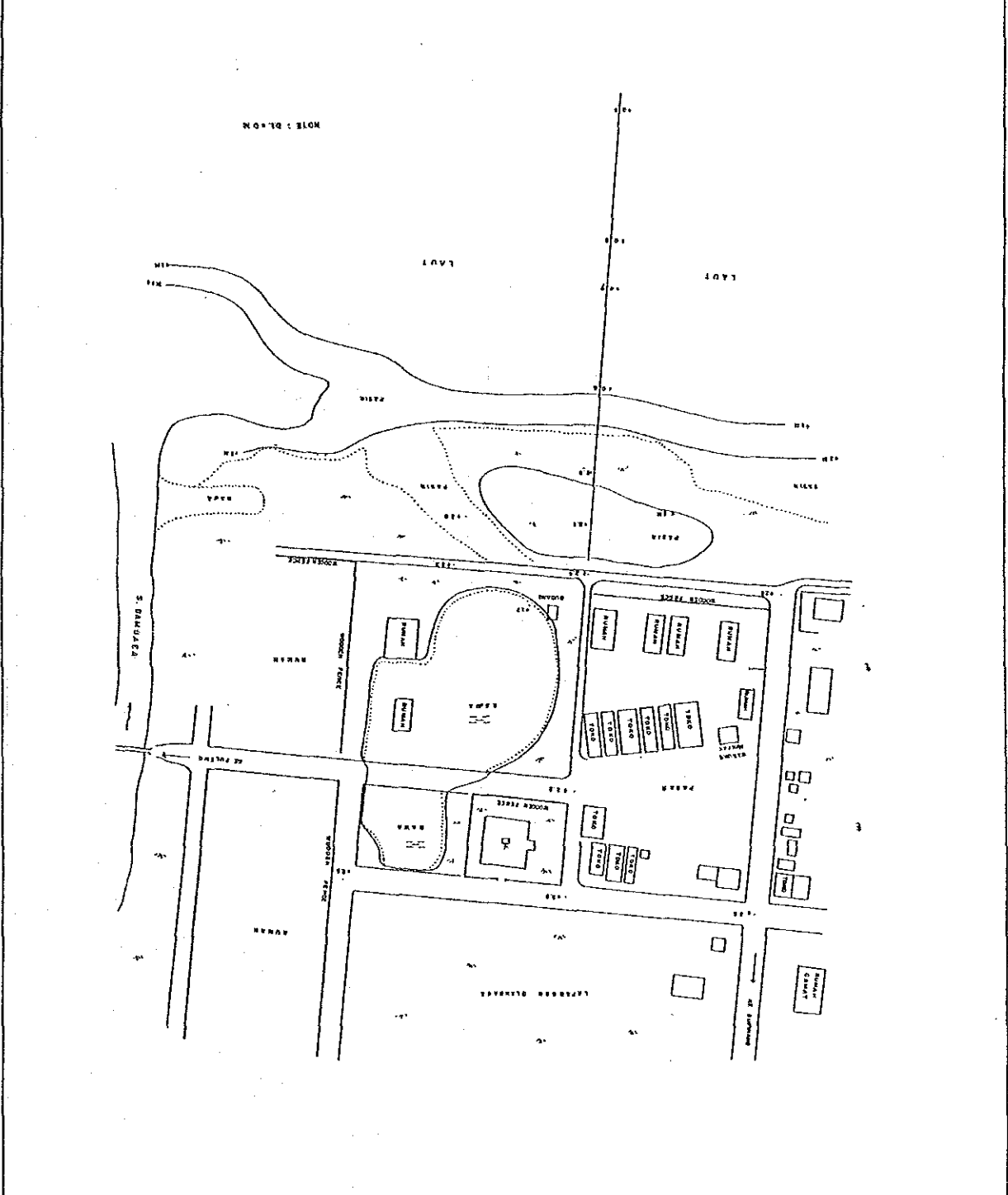
GENERAL PLAN  
KALABAHI



KEY PLAN



GENERAL PLAN  
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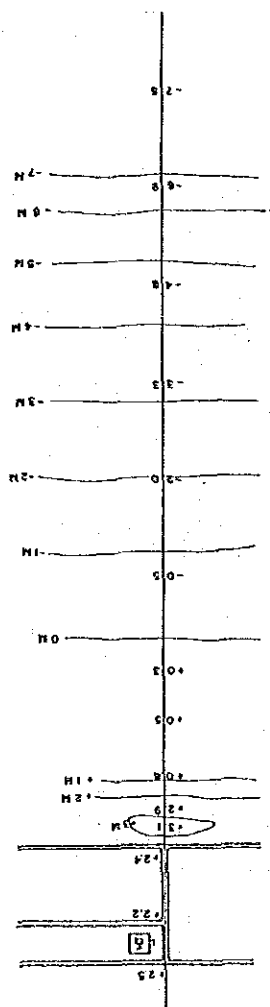


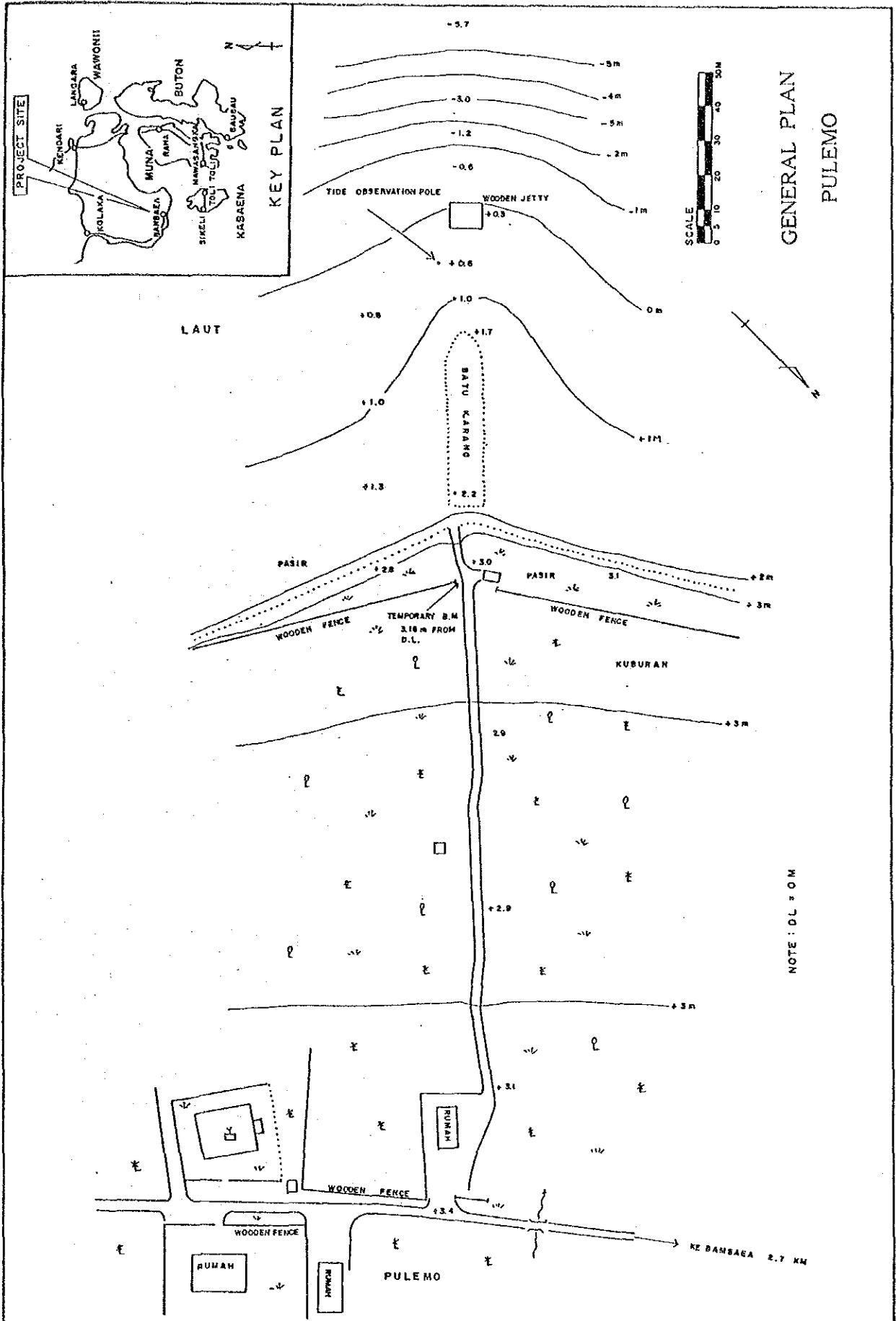
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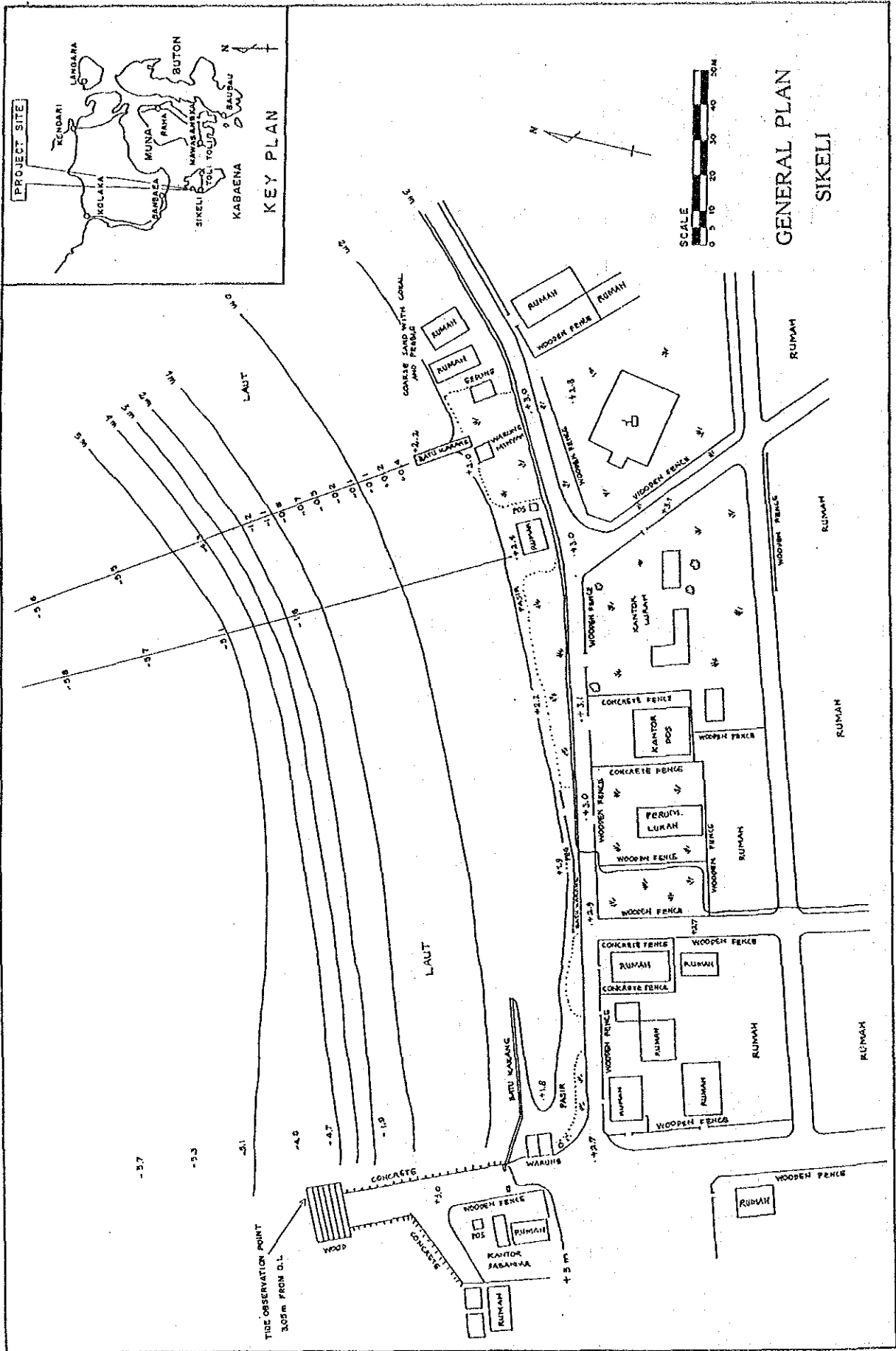
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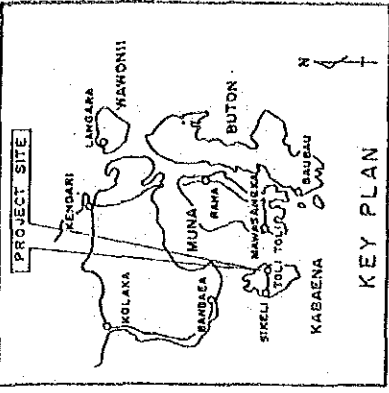
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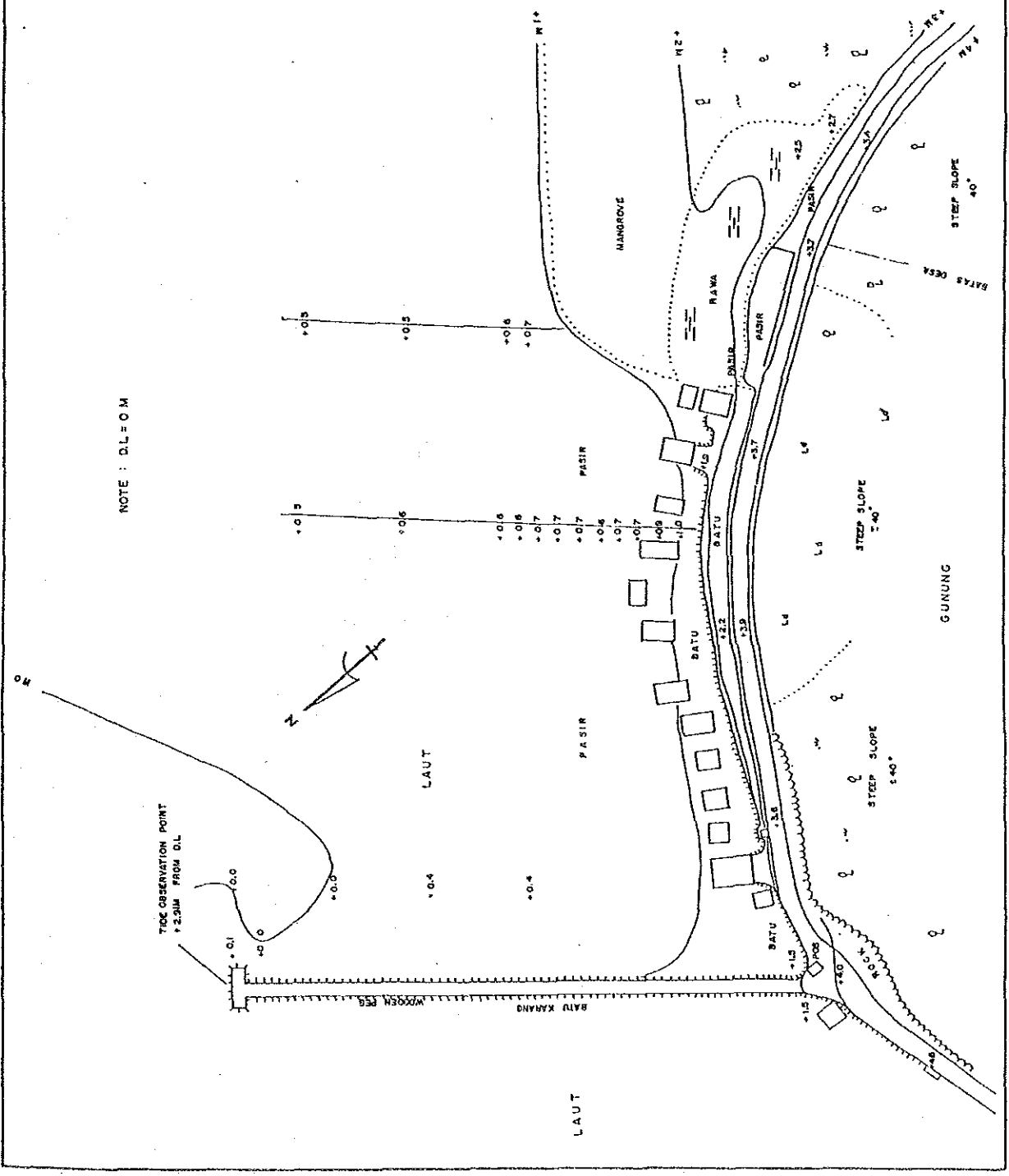
GENERAL PLAN  
SIKELI



KEY PLAN

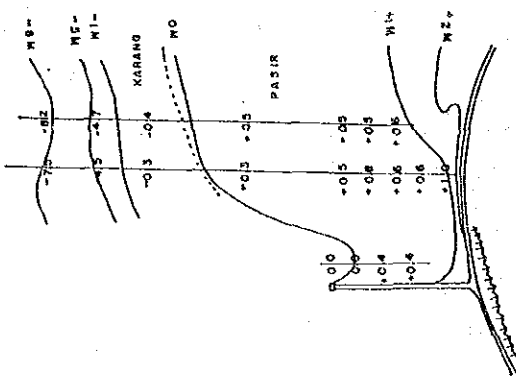
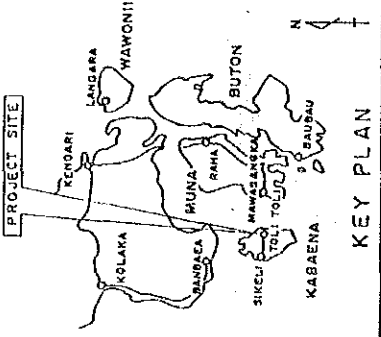


GENERAL PLAN  
TOLI TOLI

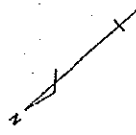


NOTE : D.L. = O.M.

TIDE OBSERVATION POINT  
2.3KM FROM O.L.

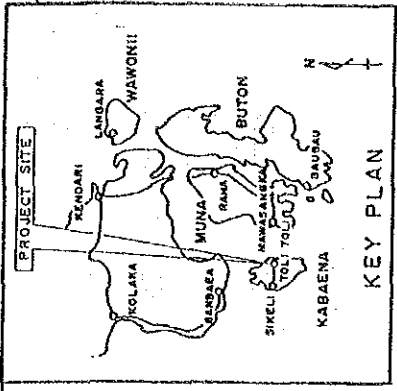


NOTE : DL = 0 M

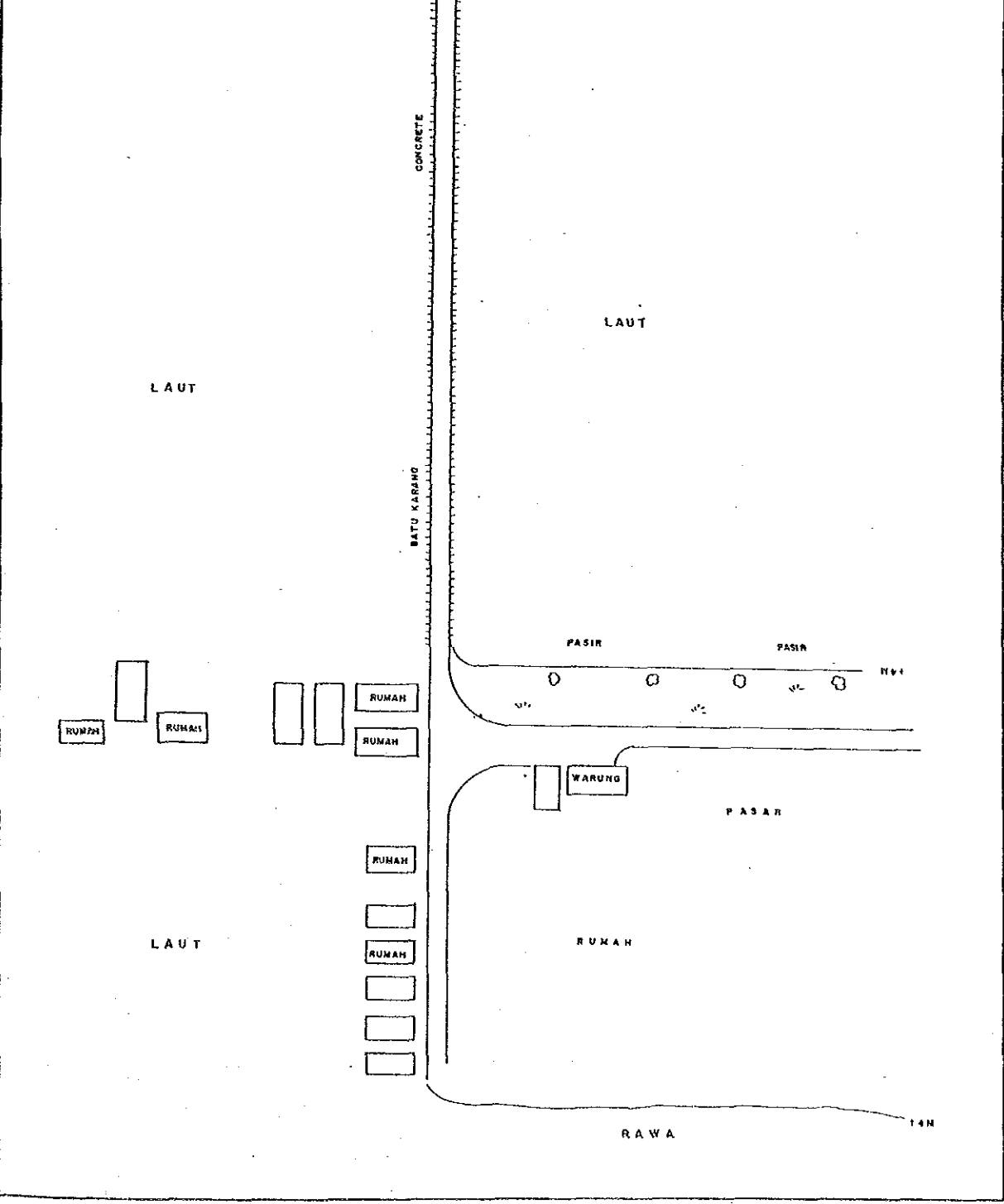


GENERAL PLAN  
TOLI TOLI



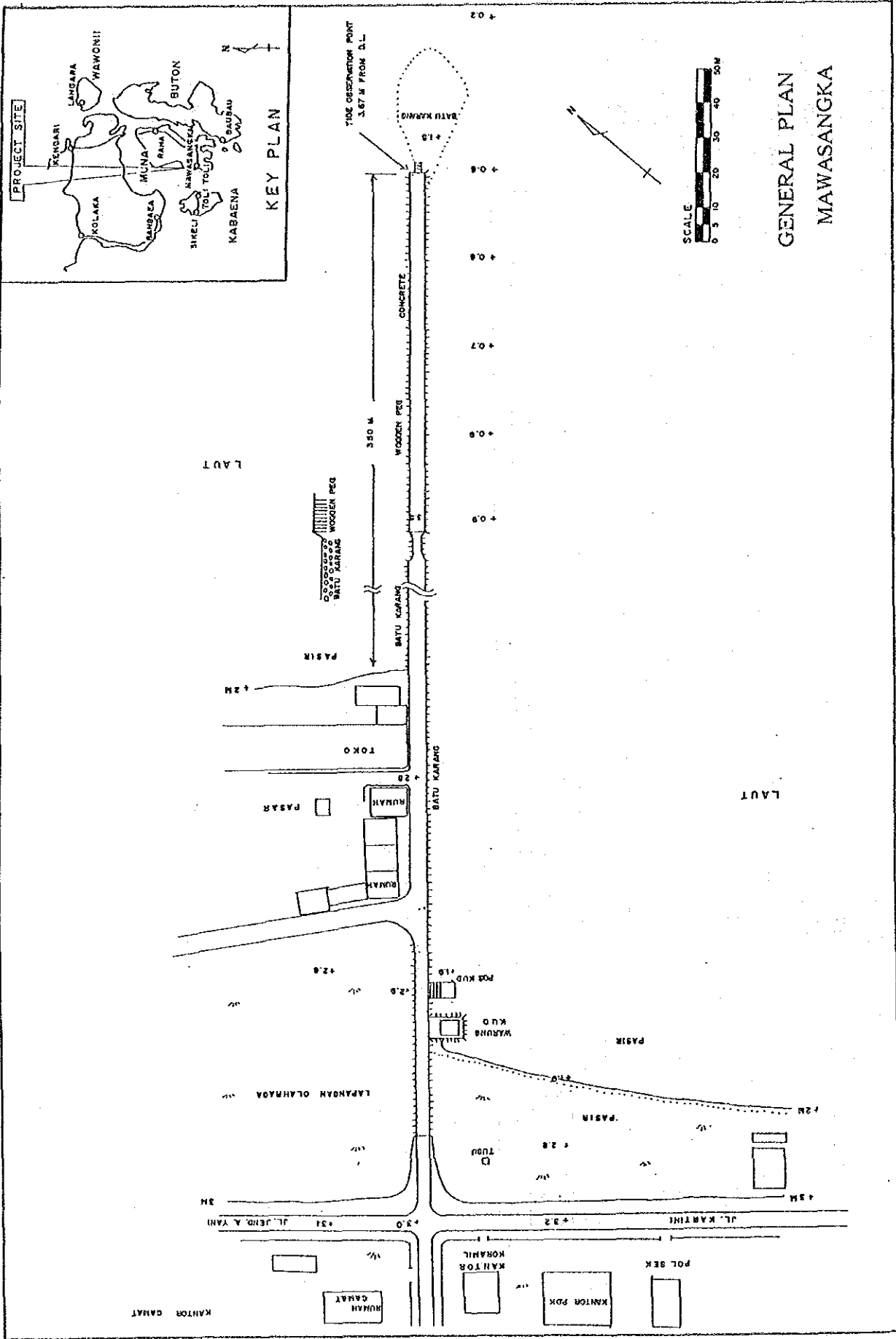


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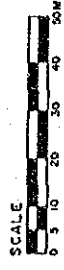
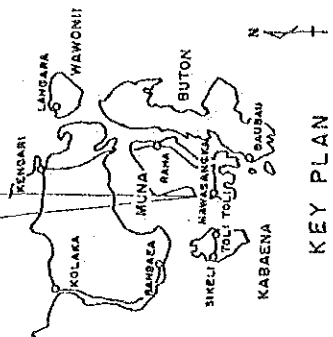


**GENERAL PLAN**

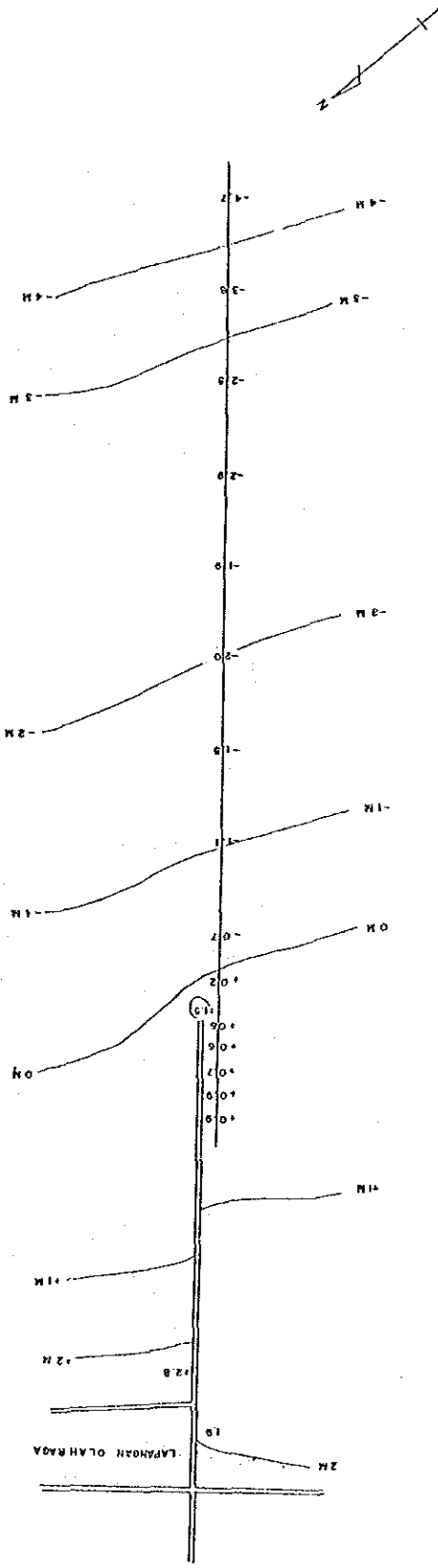
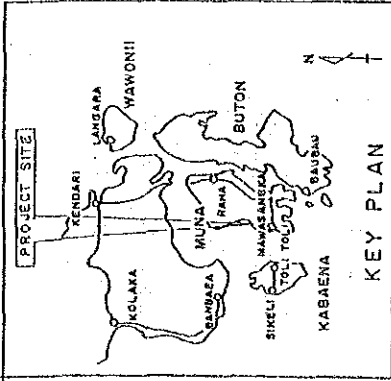
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PROJECT SITE

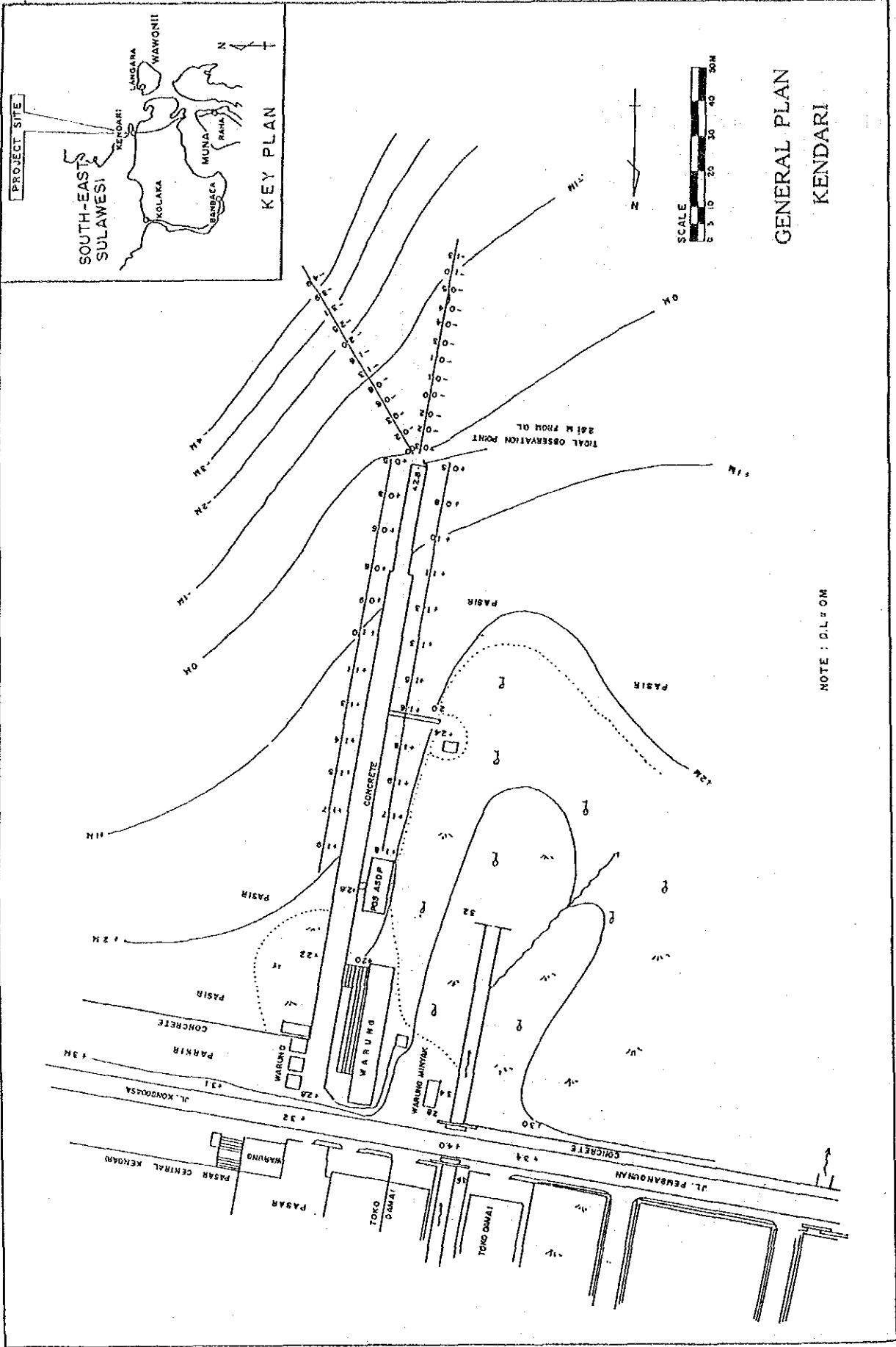


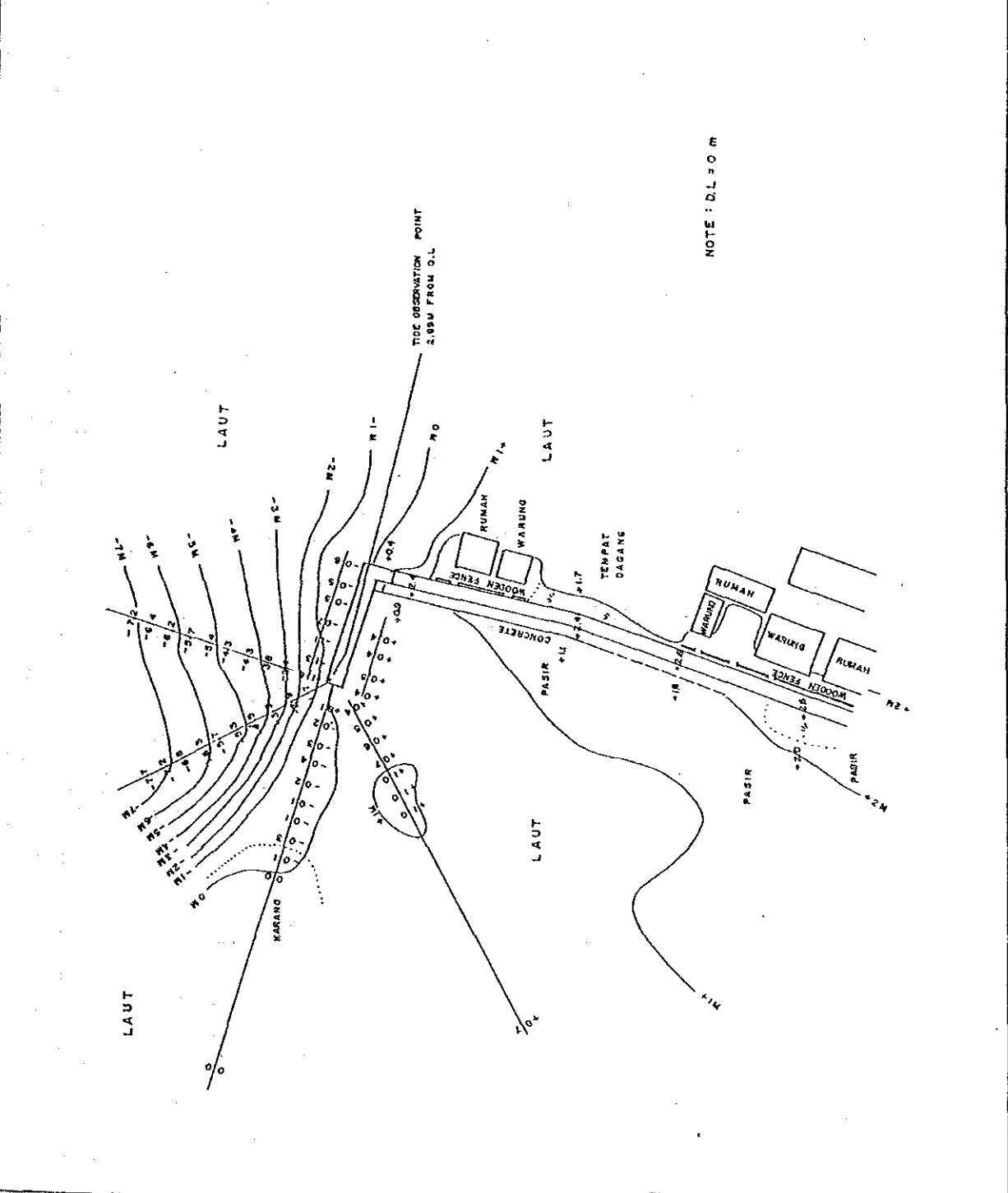
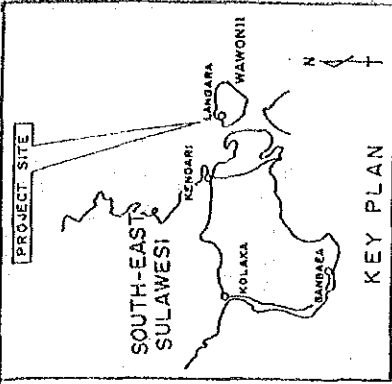
GENERAL PLAN  
MAWASANGKA



GENERAL PLAN  
MAWASANGKA

NOTE 1 DL=0M

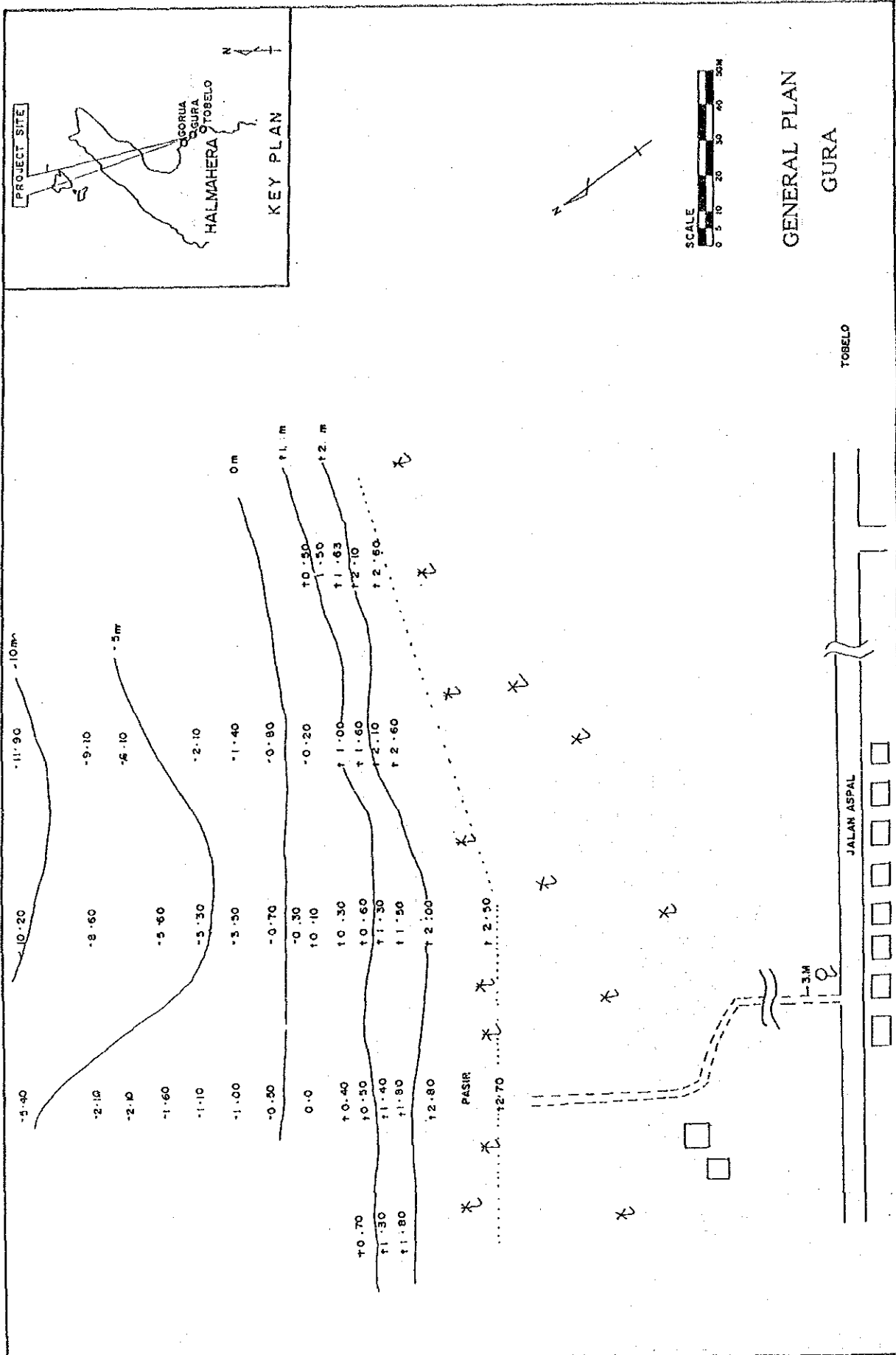


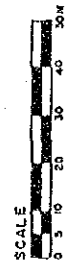
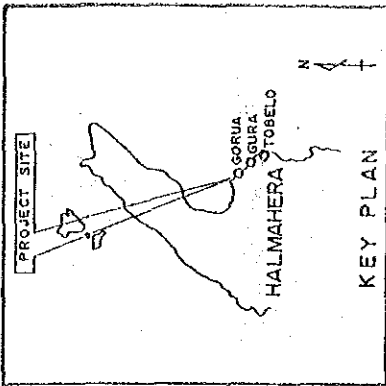


NOTE : D.L = 0 M

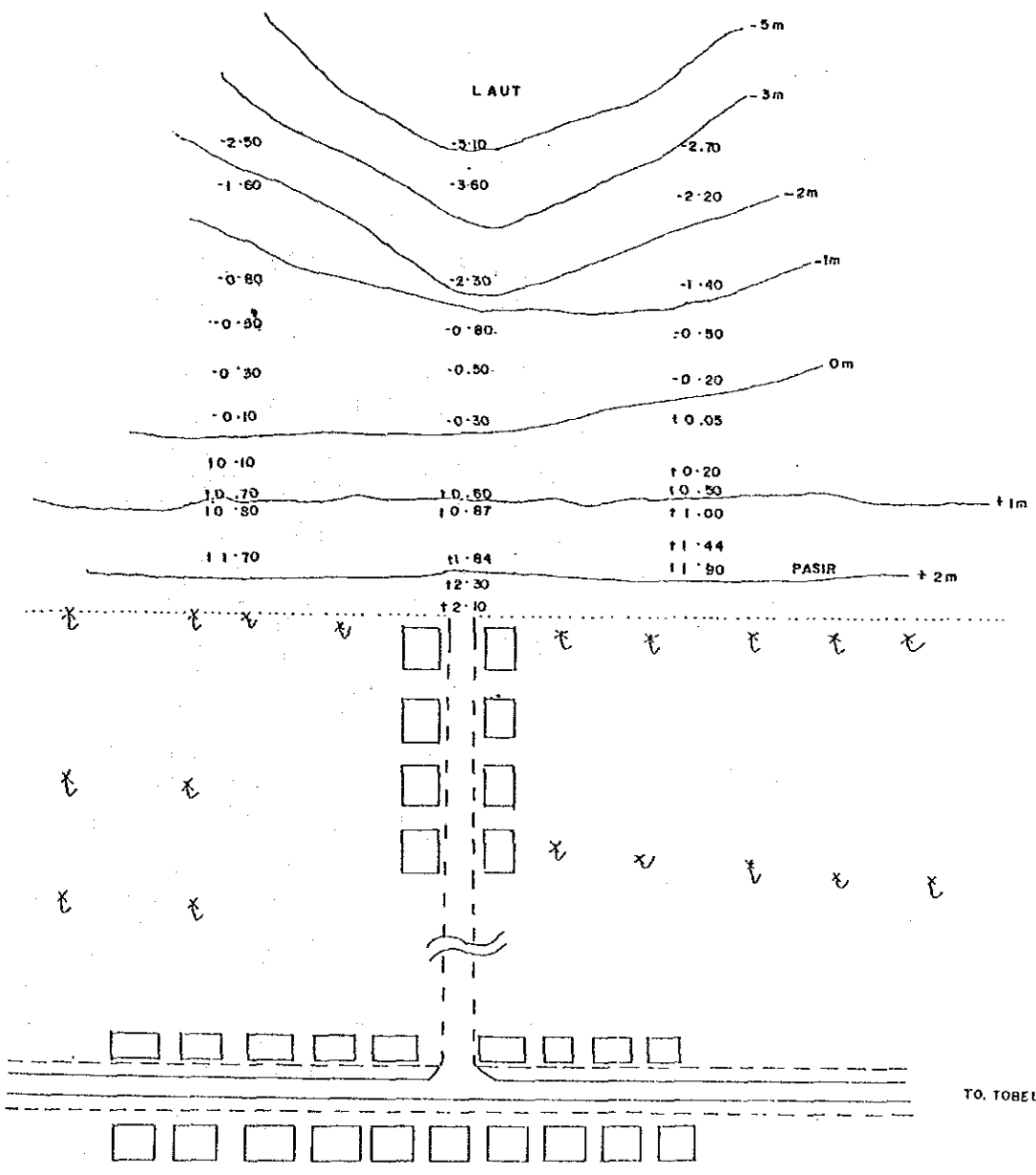


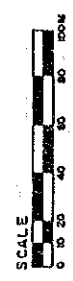
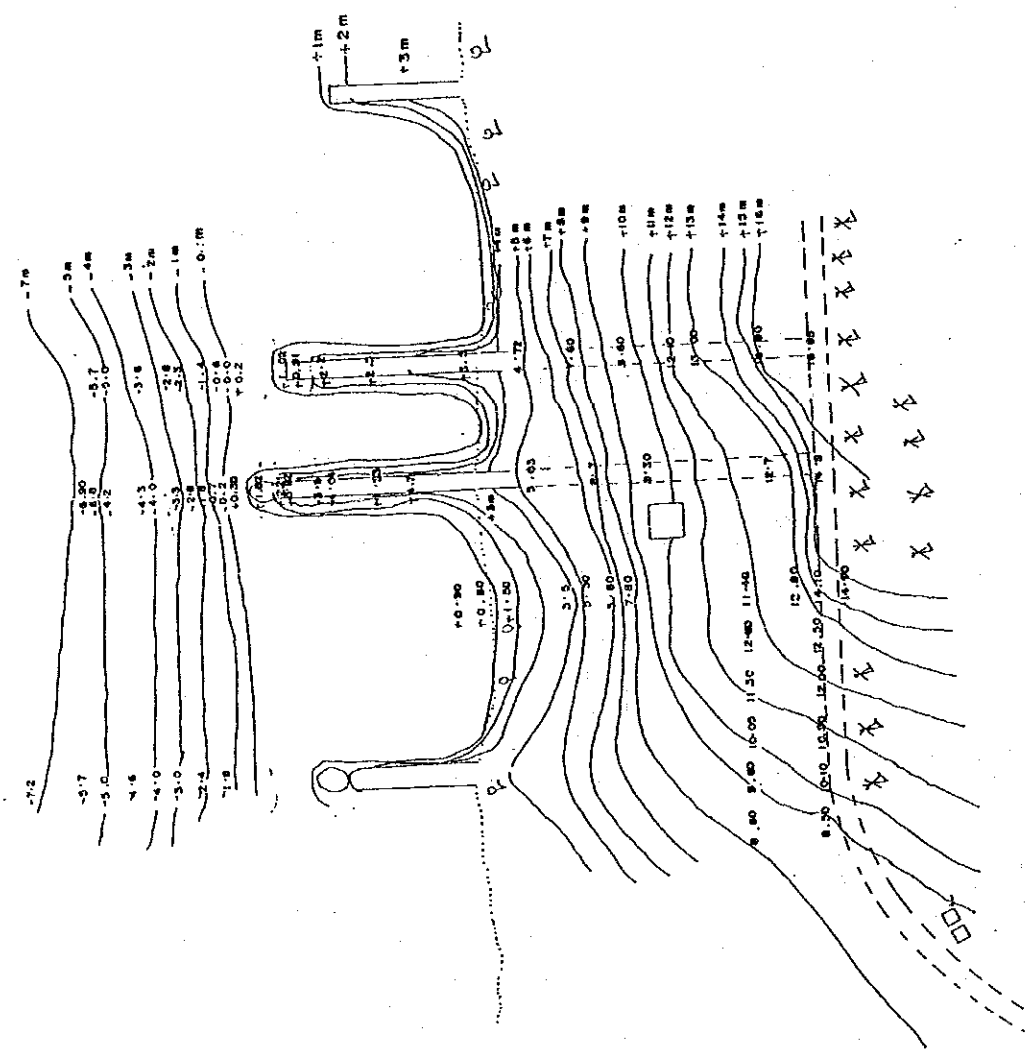
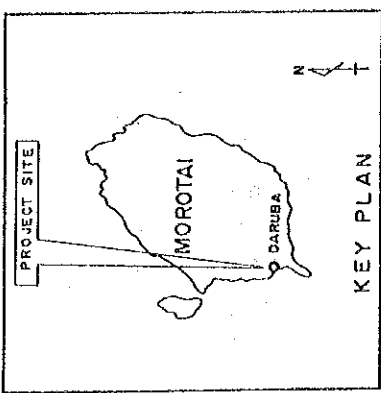
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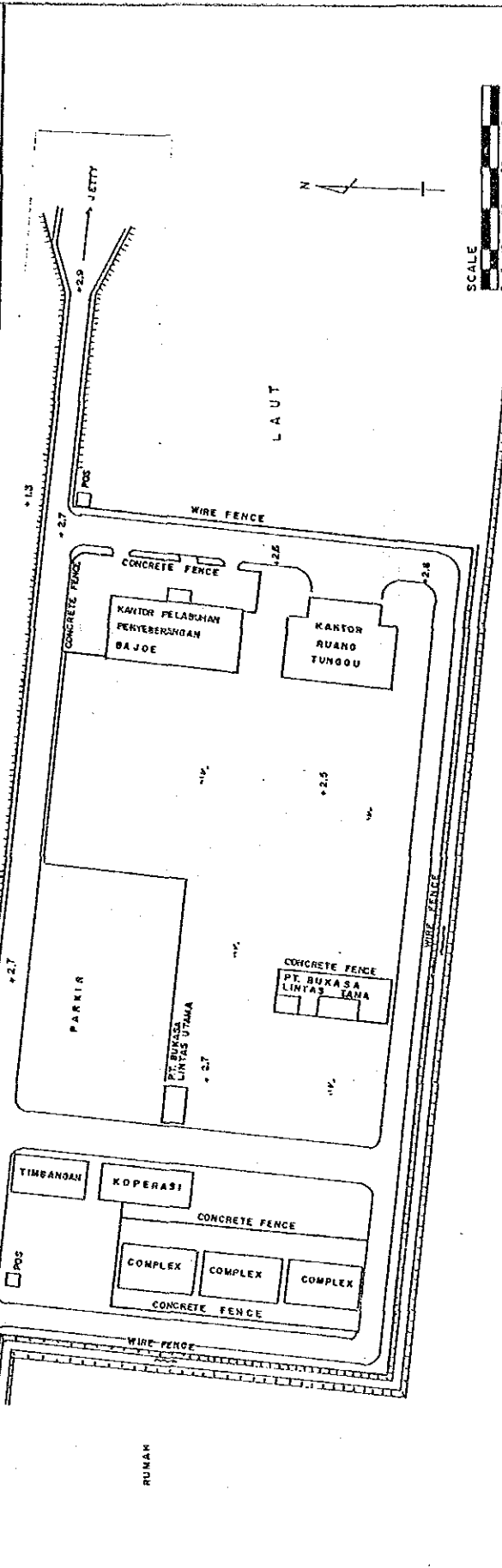
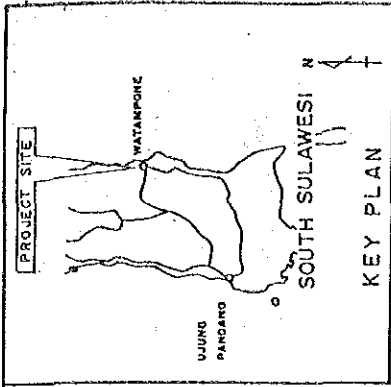
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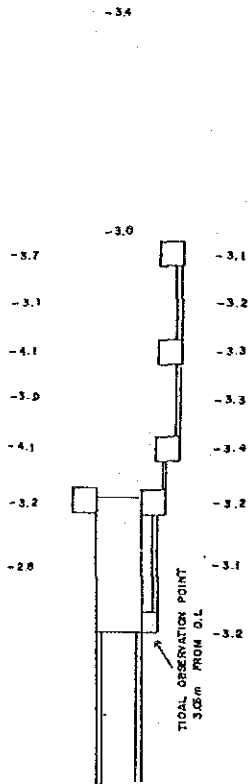
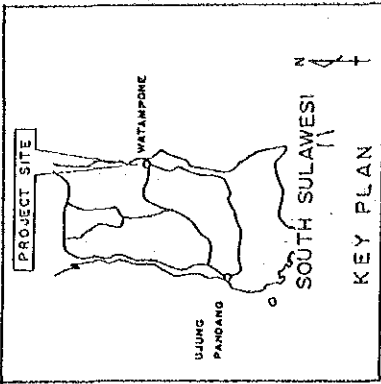
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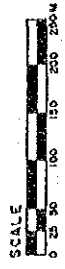


GENERAL PLAN  
BAJOE

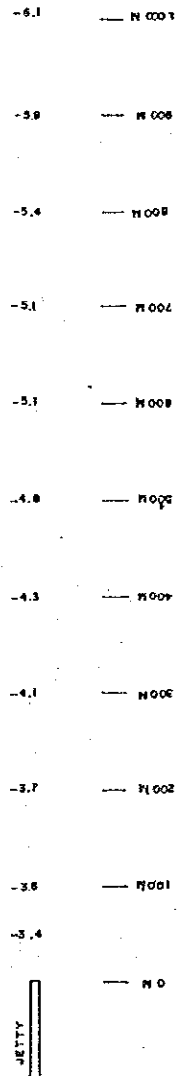
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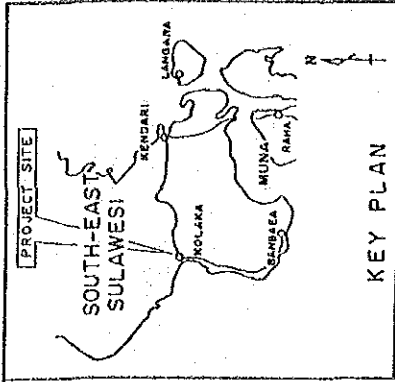
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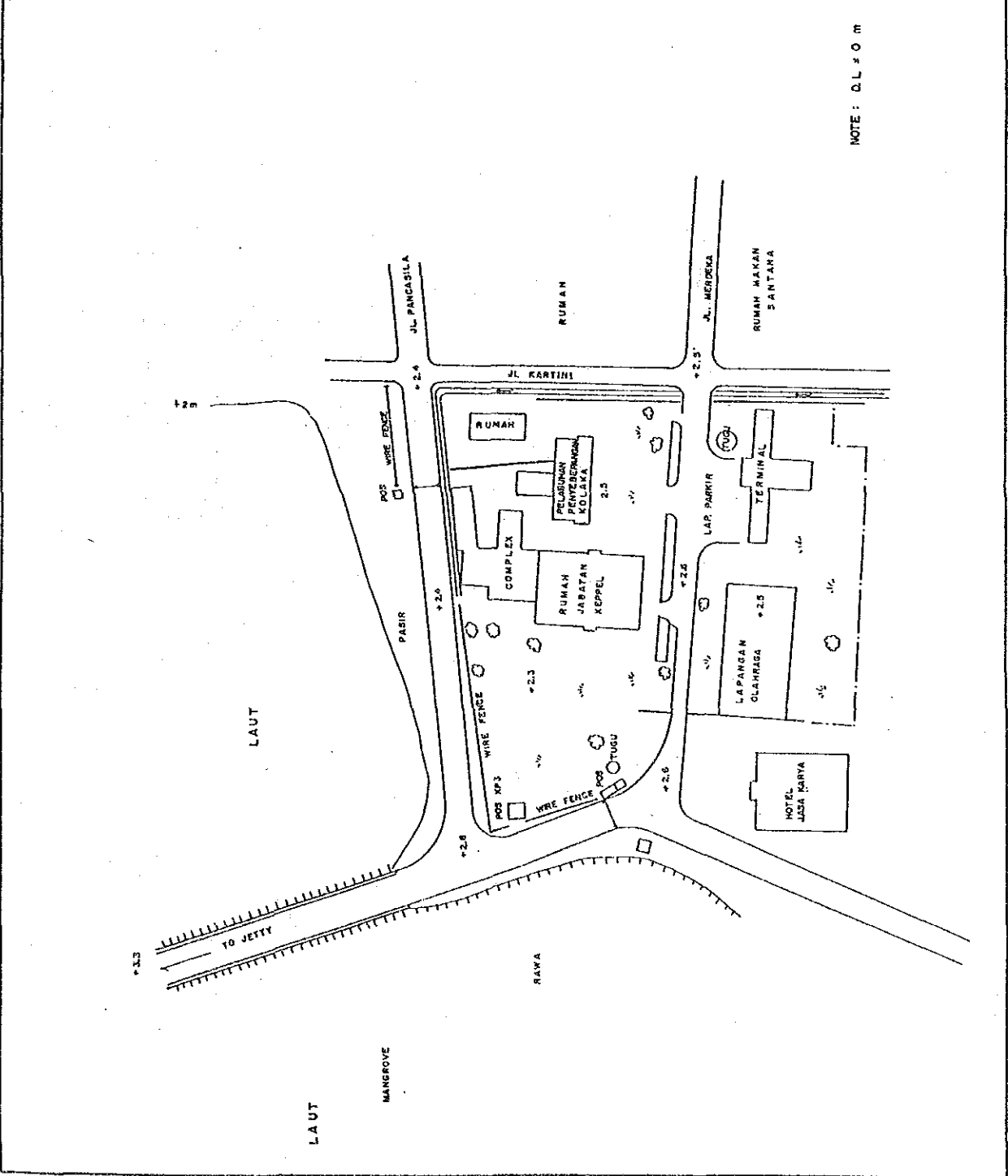
GENERAL PLAN  
BAJOE



NOTE : D.L = O.M

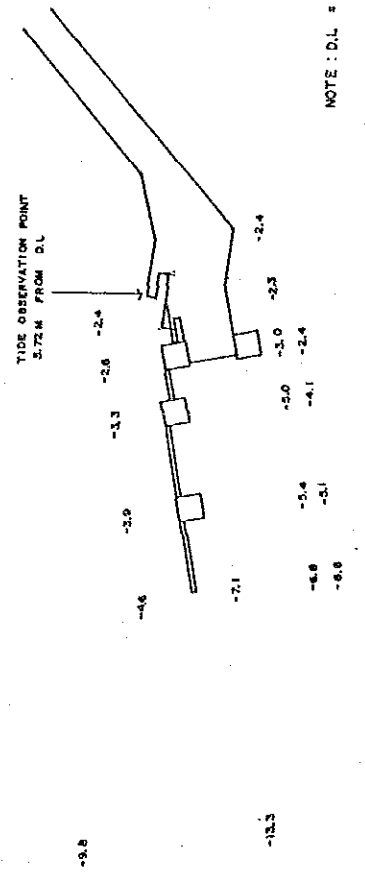
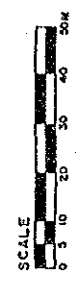
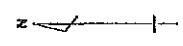
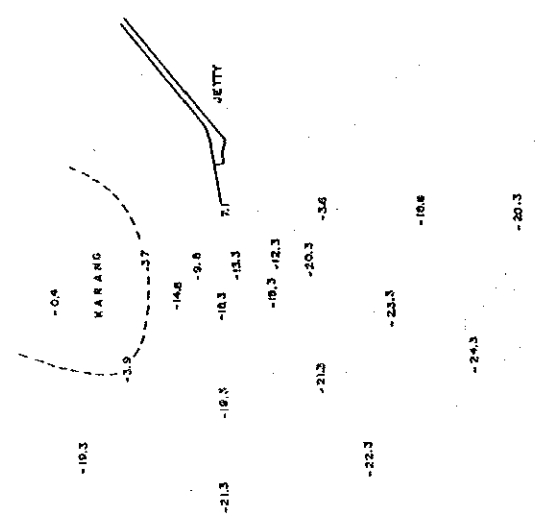
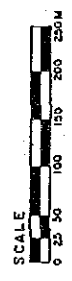
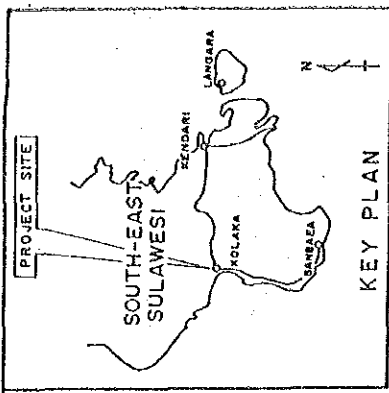


KEY PLAN



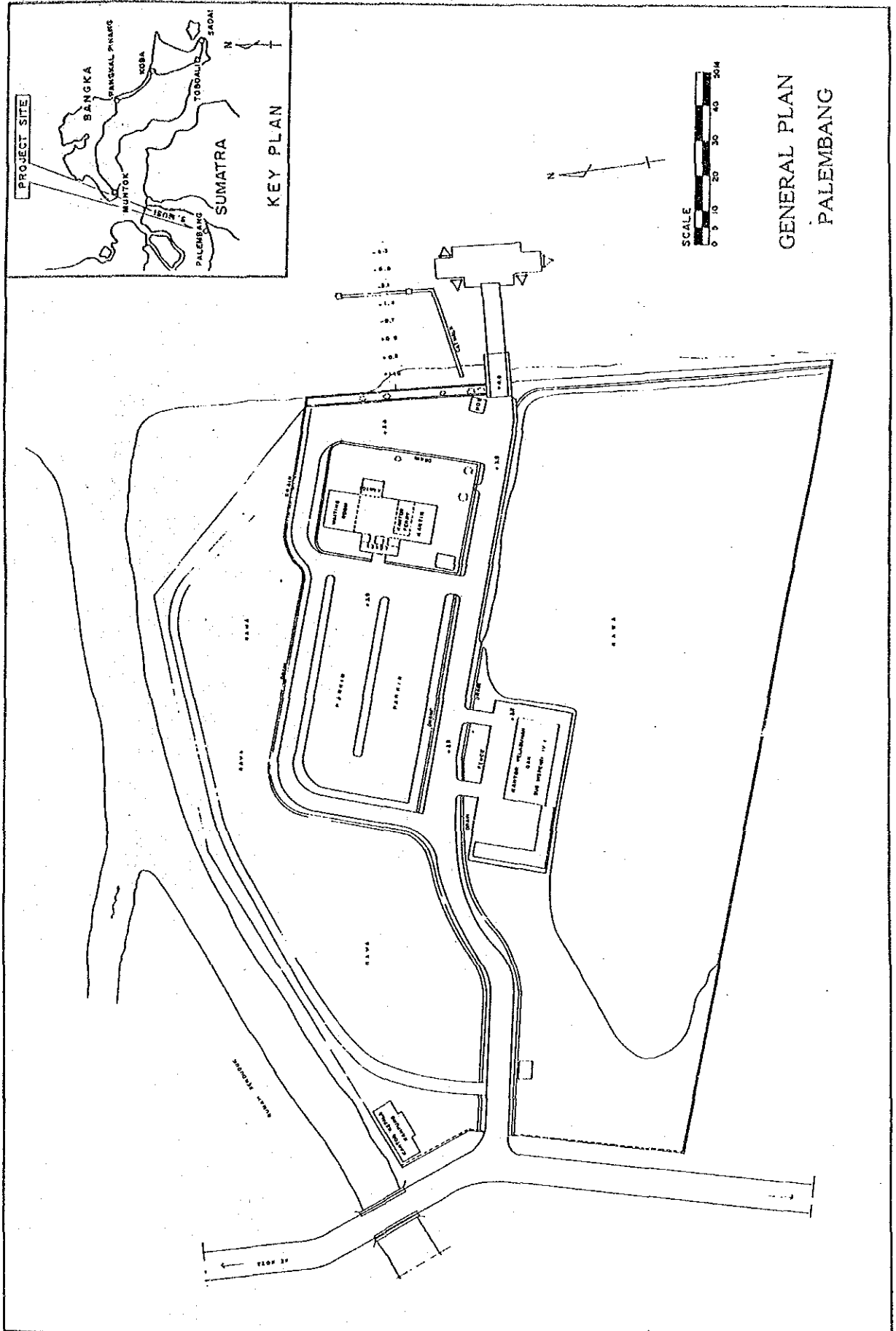
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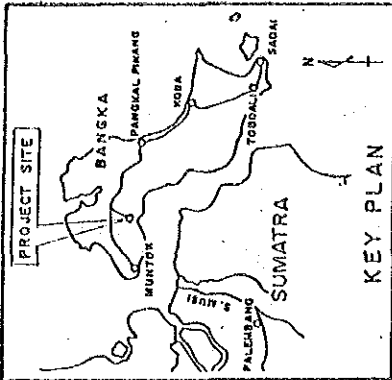
GENERAL PLAN  
KOLAKA



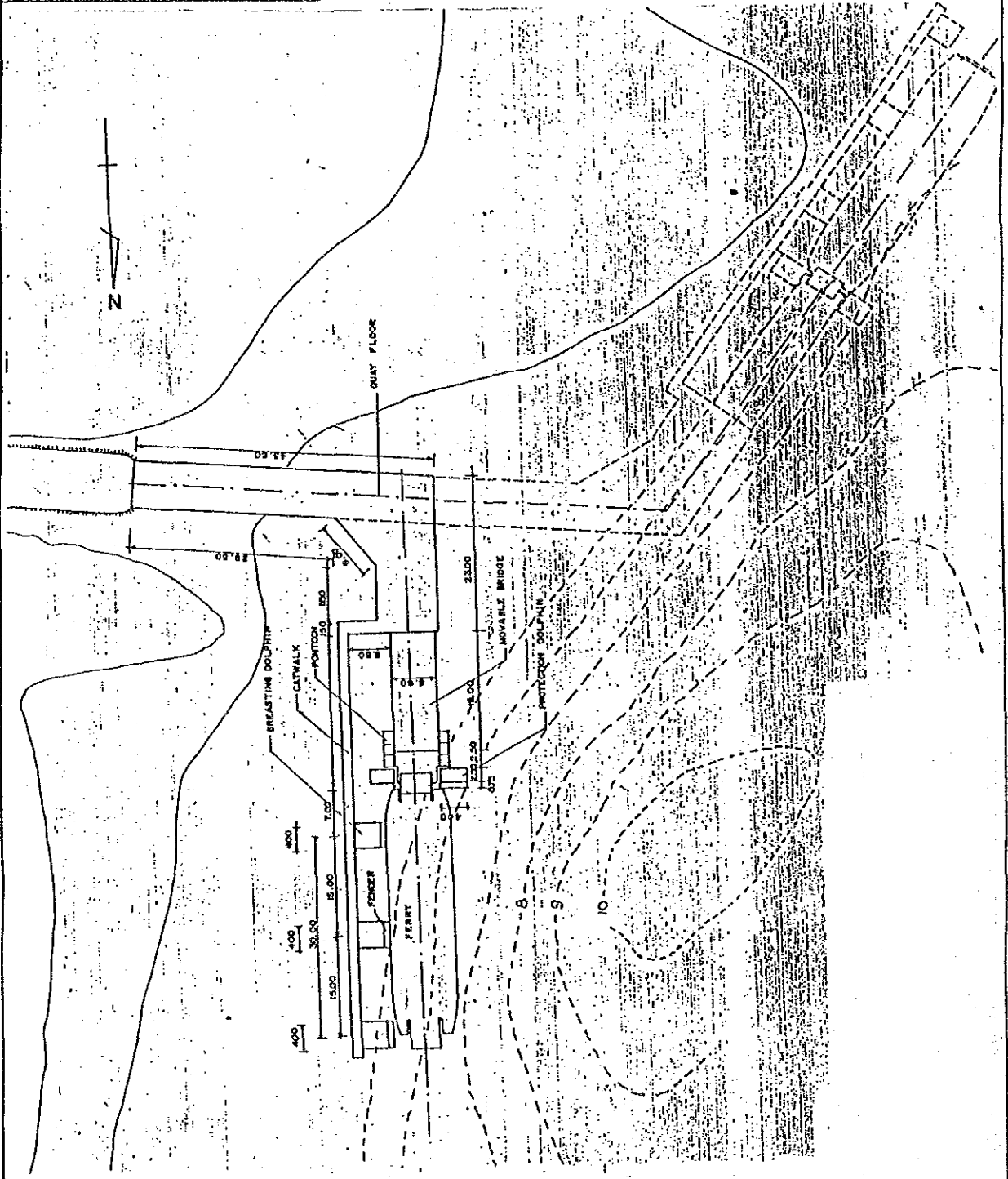
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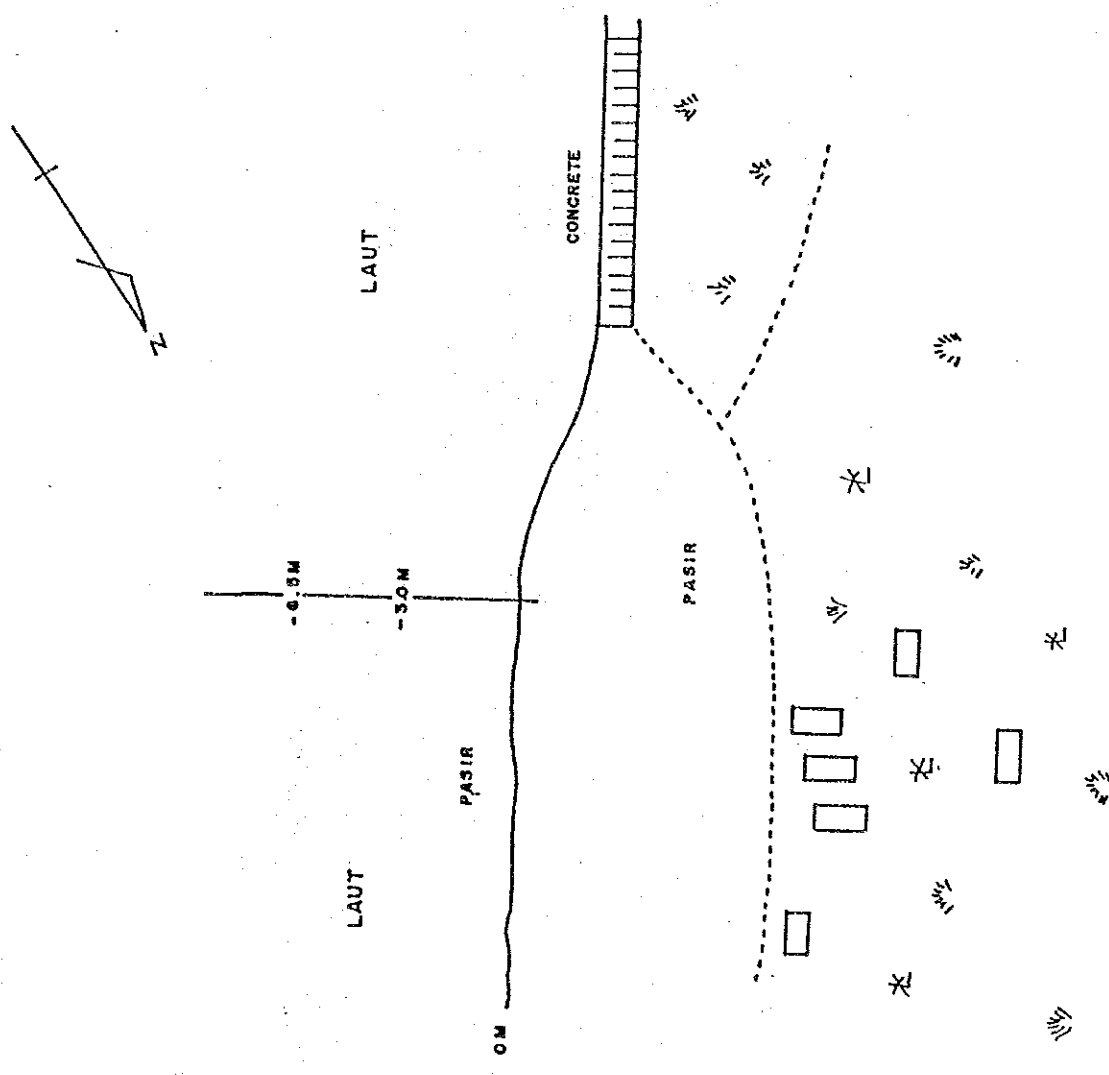
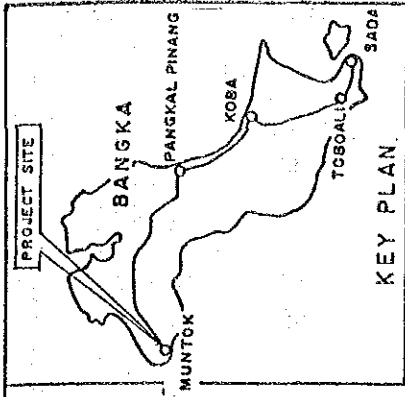
GENERAL PLAN  
KOLAKA



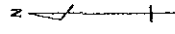
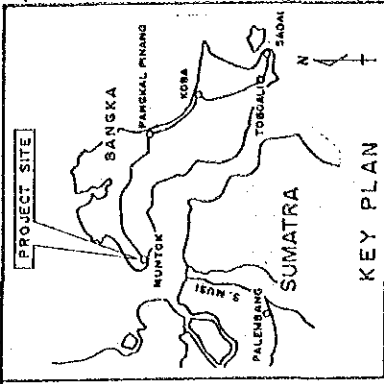


GENERAL PLAN  
KAYUARANG

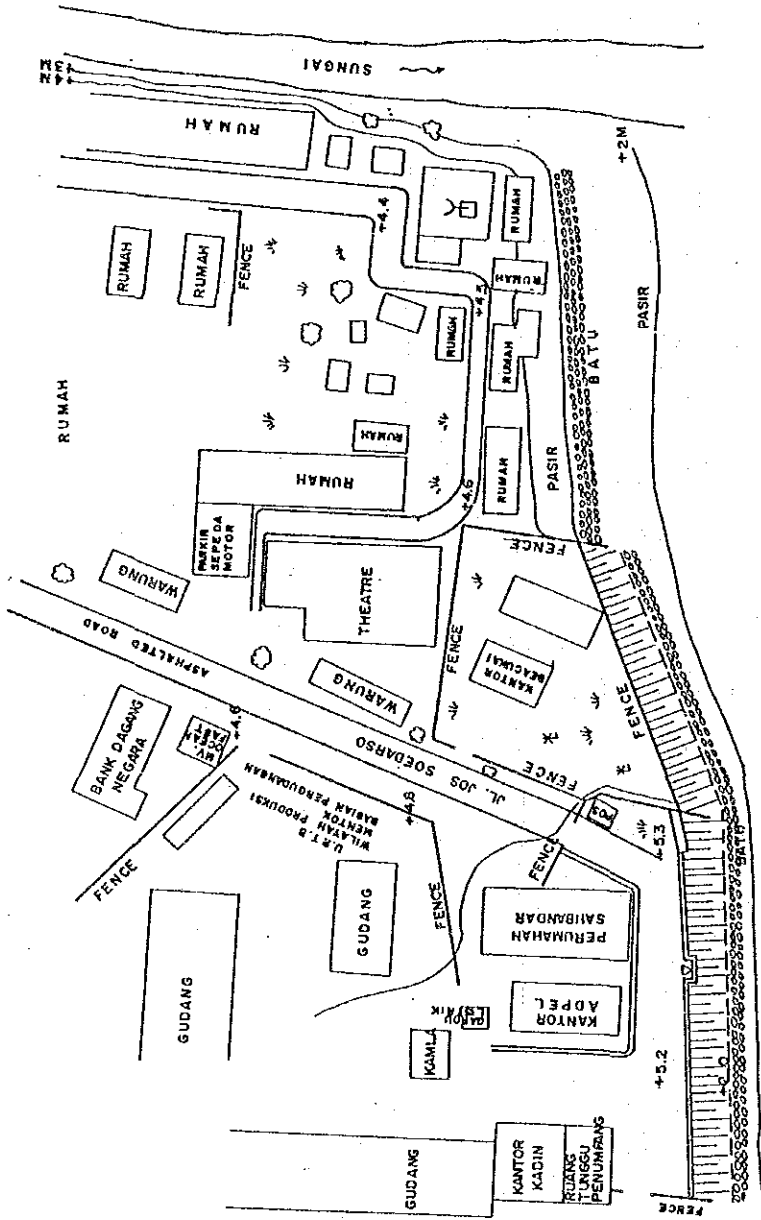




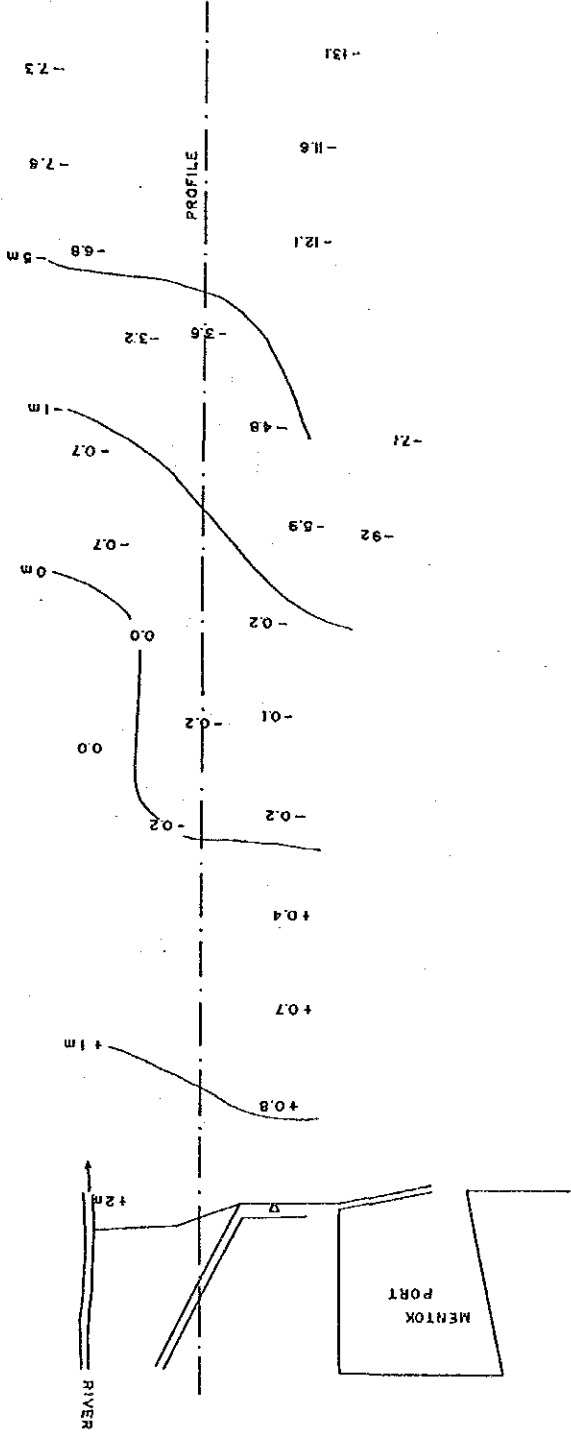
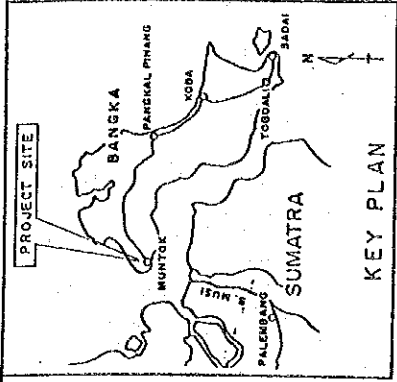
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MUNTOK



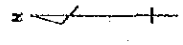
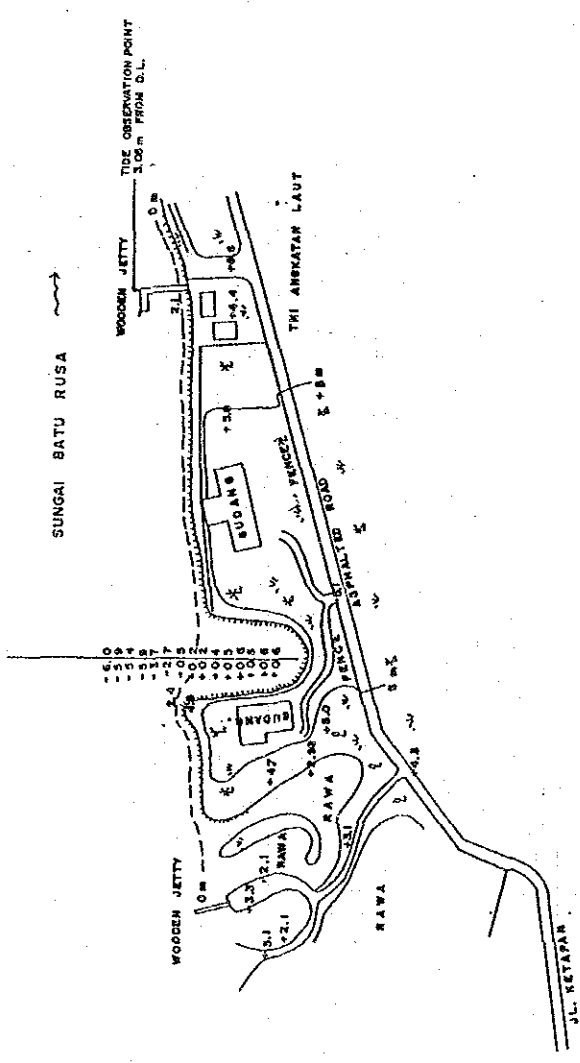
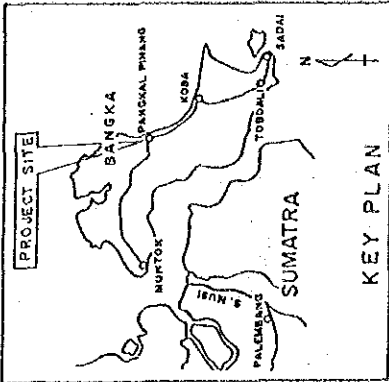
GENERAL PLAN  
MENTOK



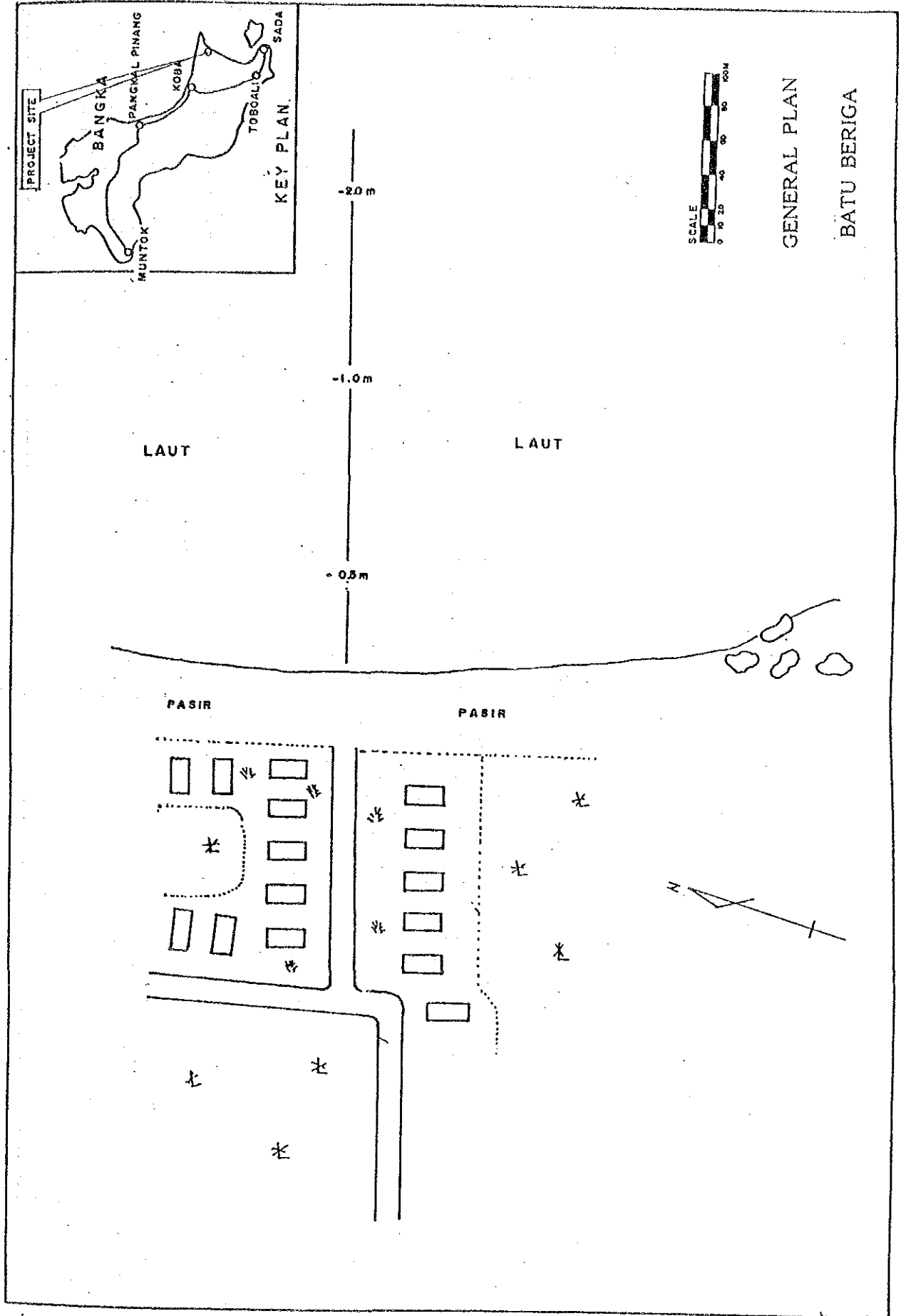


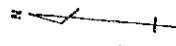
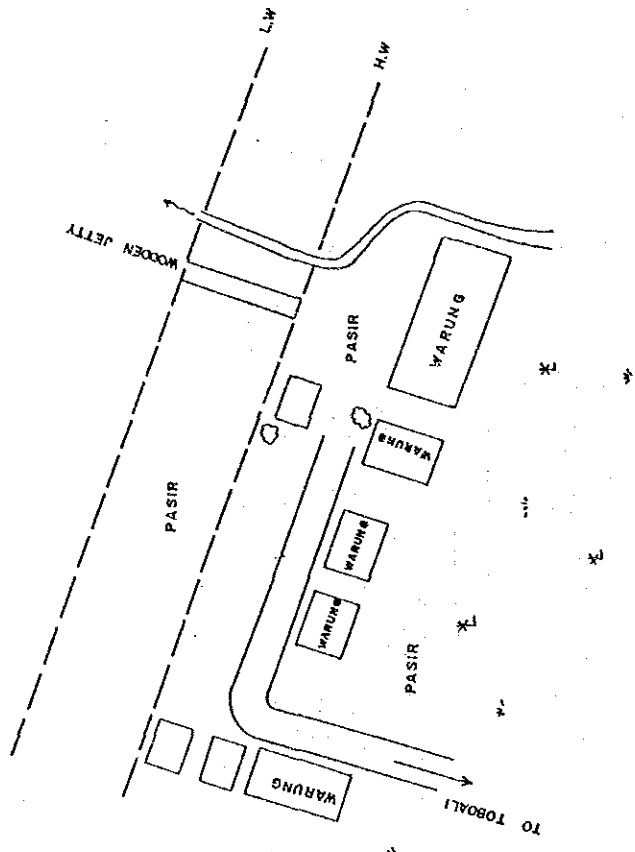
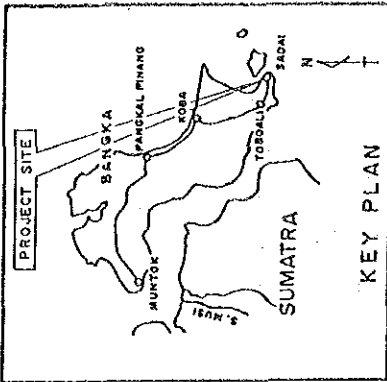


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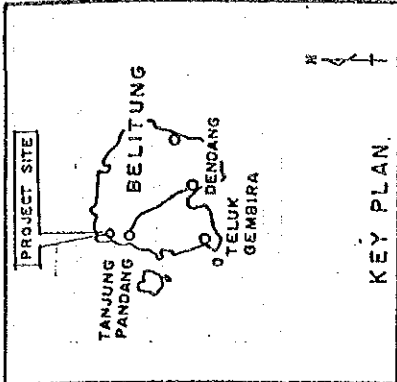


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KETAPANG

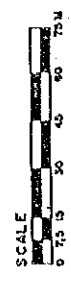




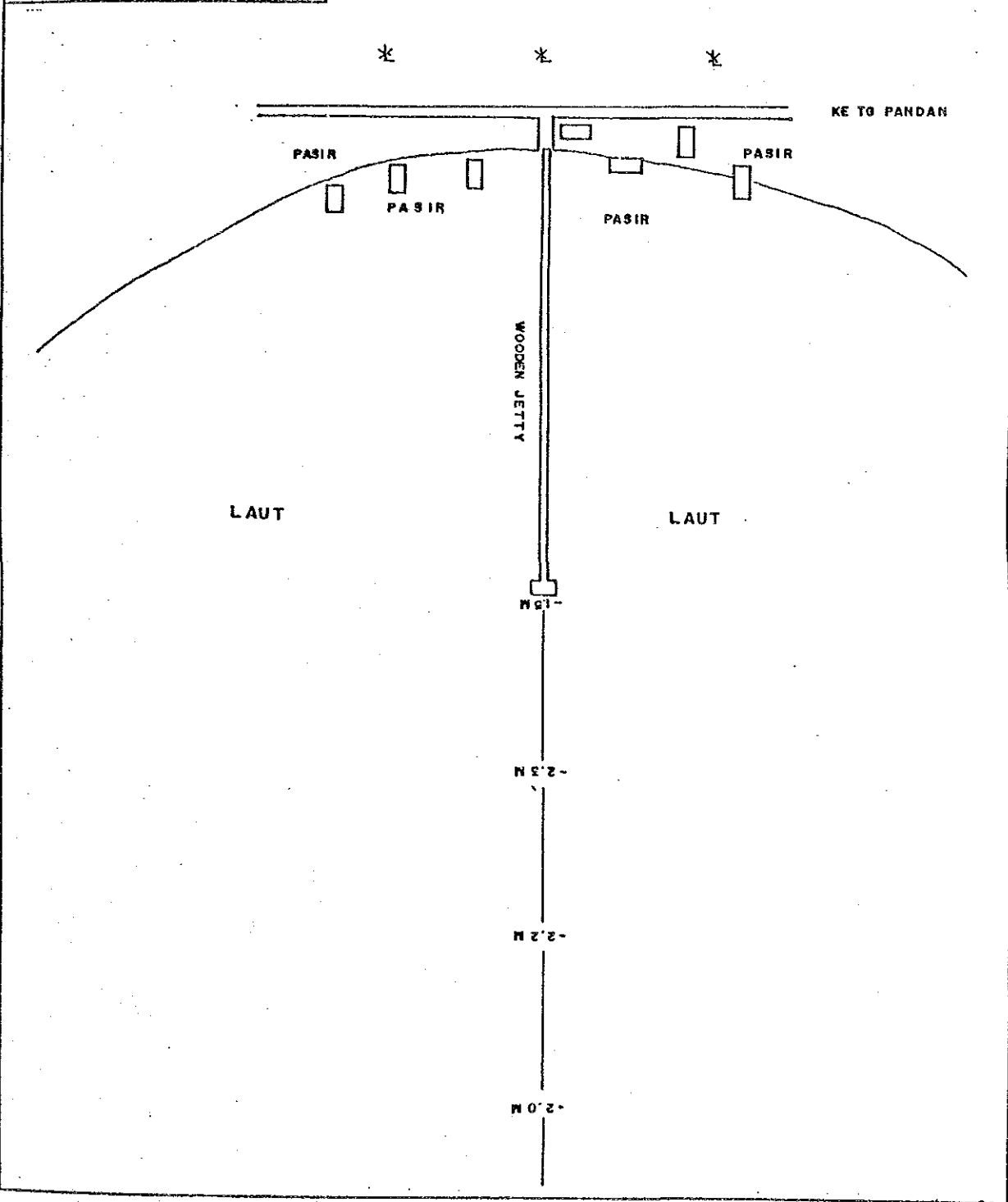
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SADAI

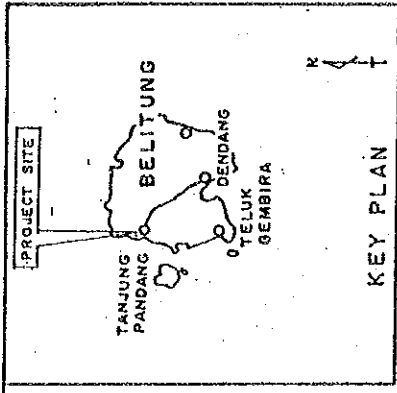


KEY PLAN

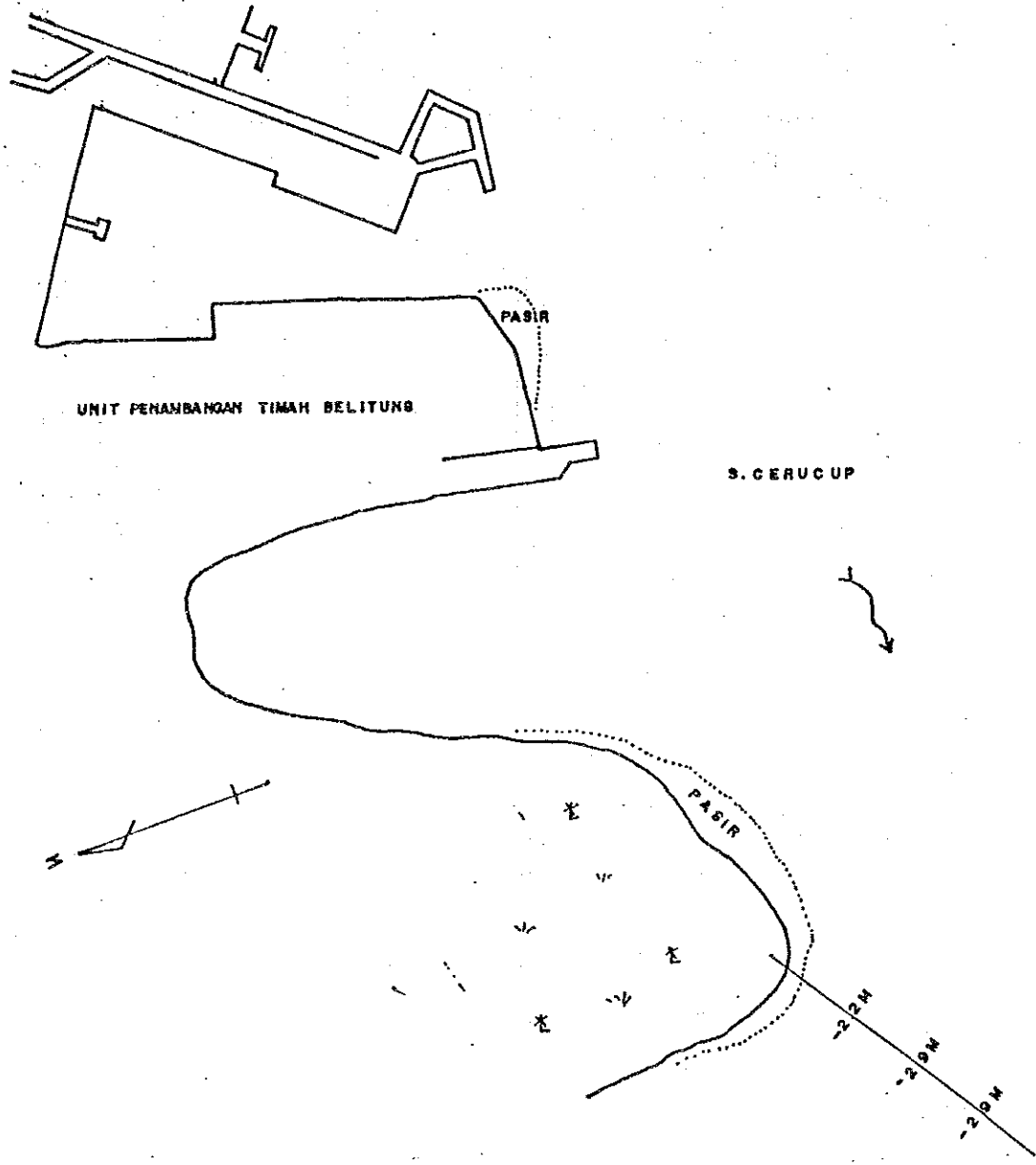


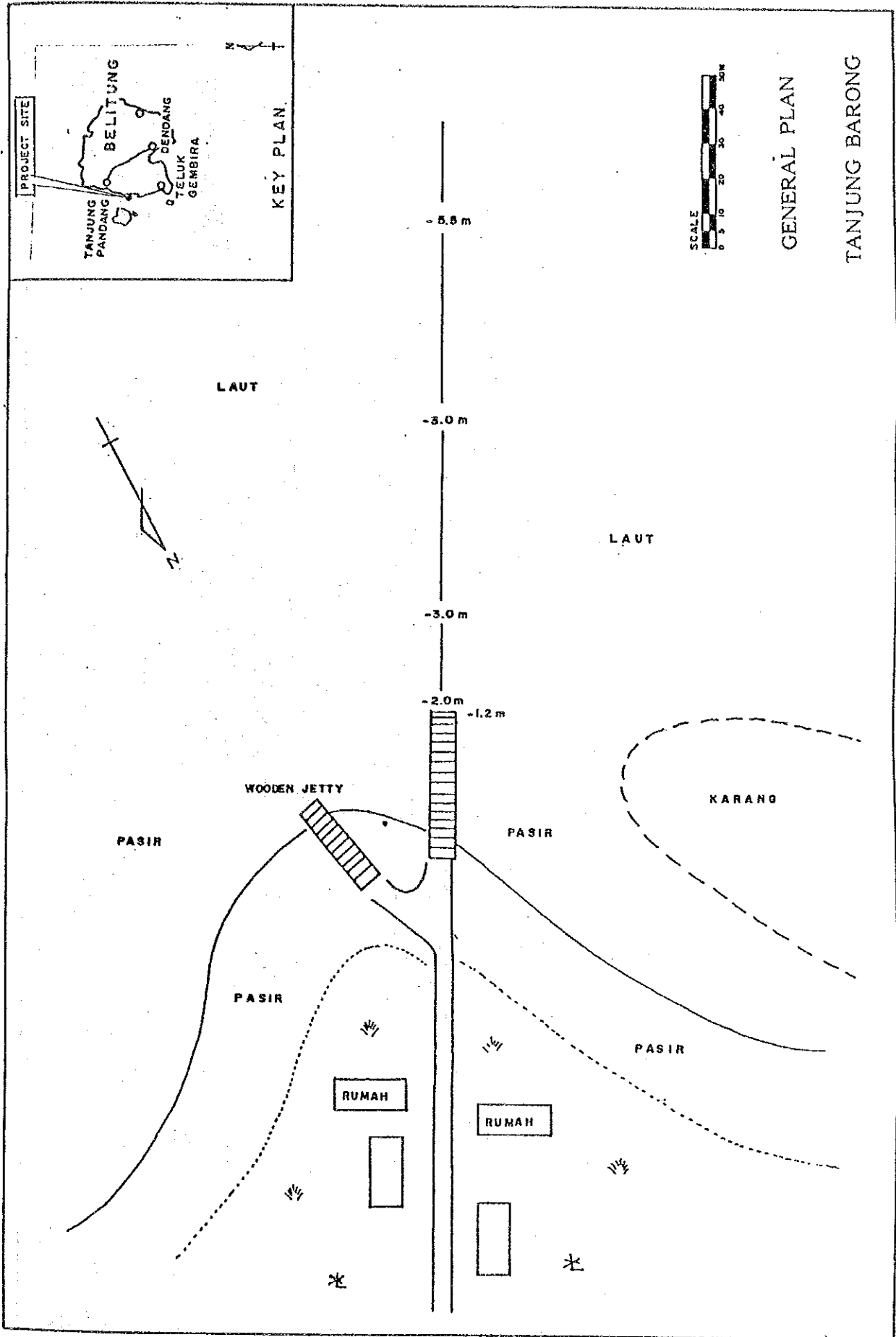
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TG. BINGA





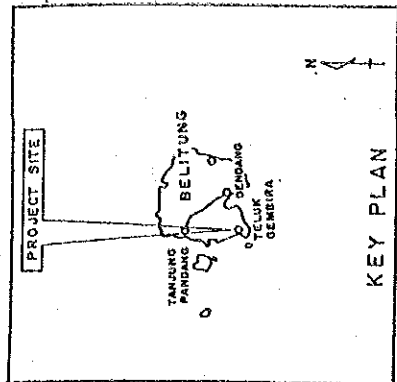
GENERAL PLAN  
TANJUNG PANDAN



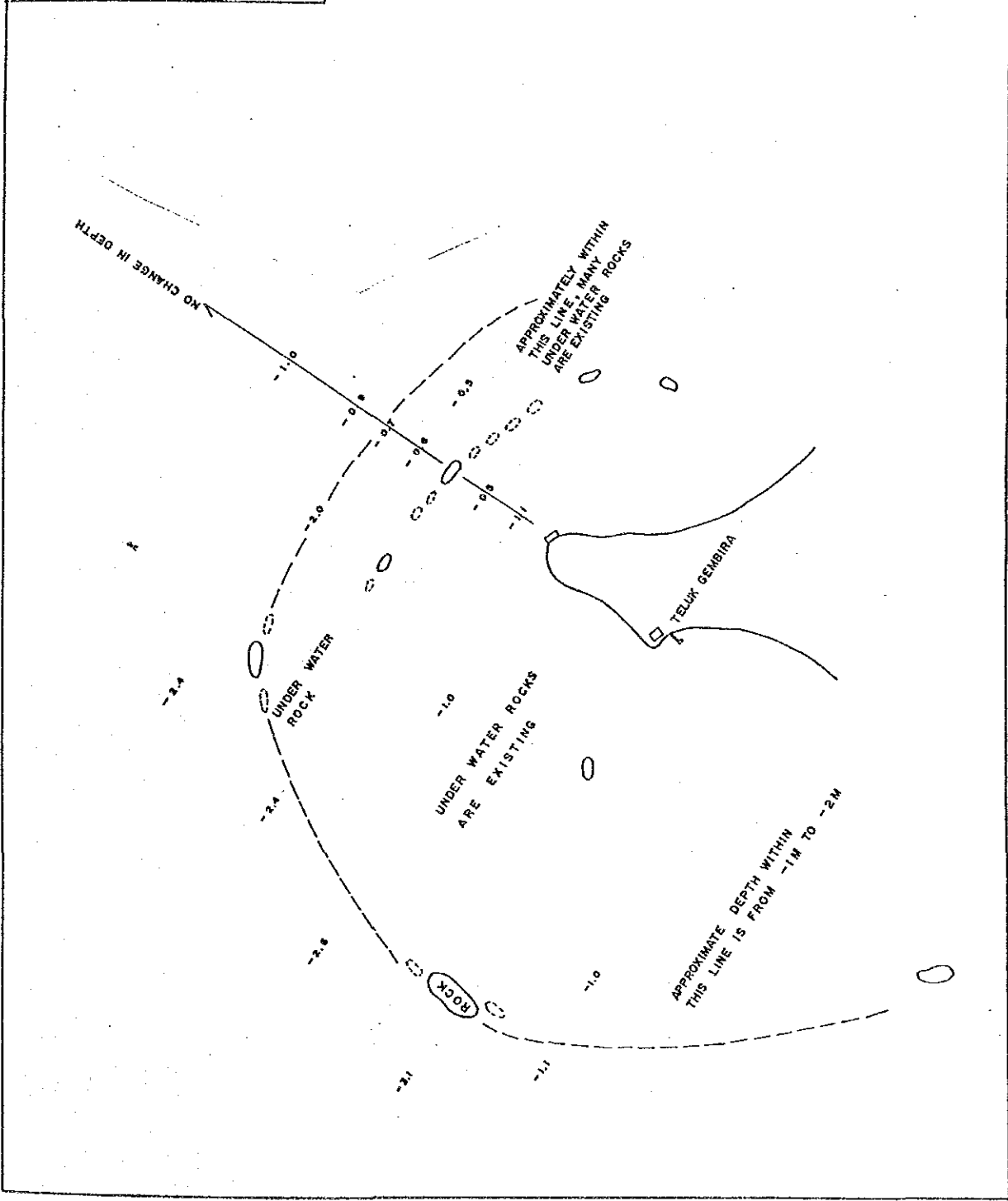








GENERAL PLAN  
TELUK GEMBIRA





# PART 2



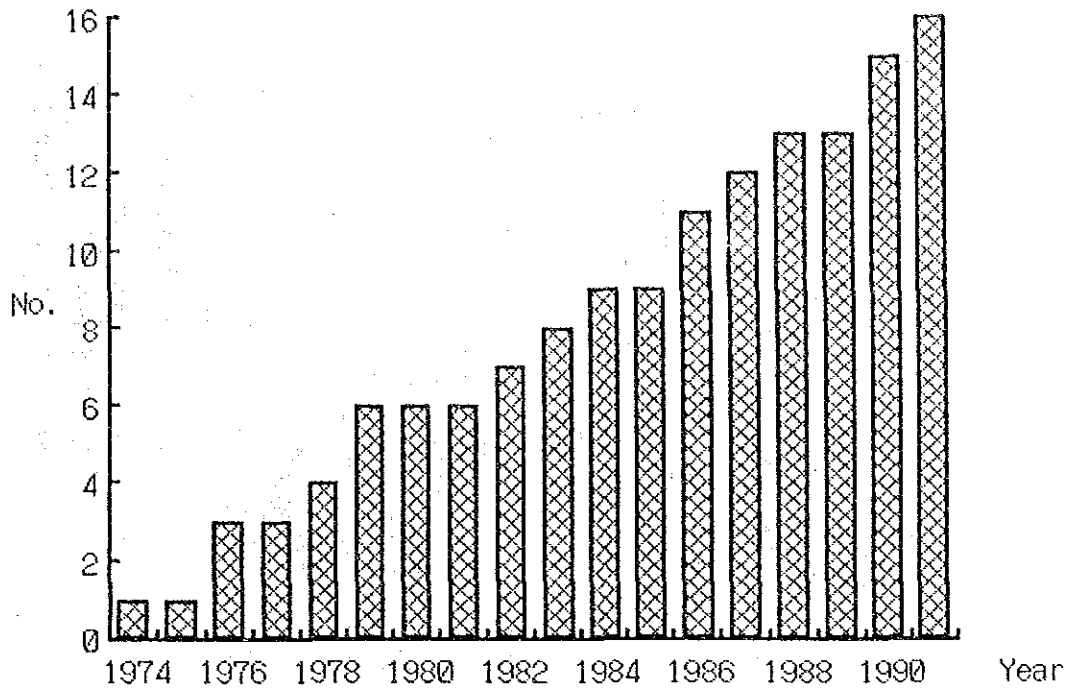


Fig. 1-1-1A Number of Shipping Companies

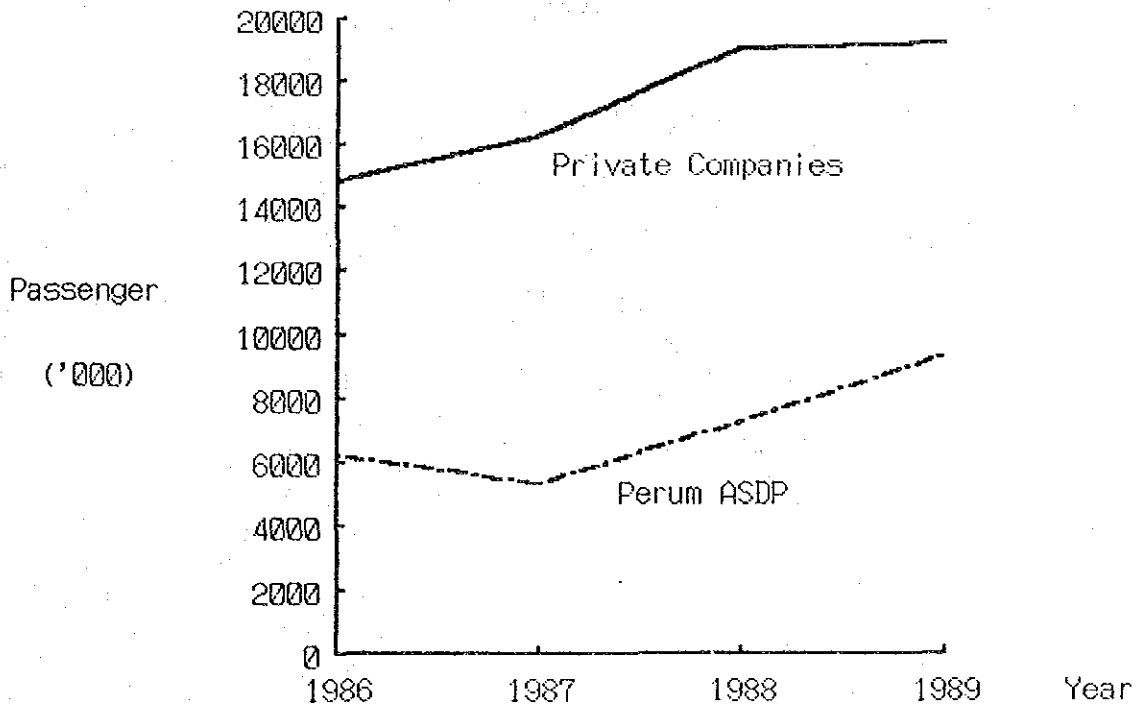


Fig. 1-1-2A Number of Passengers

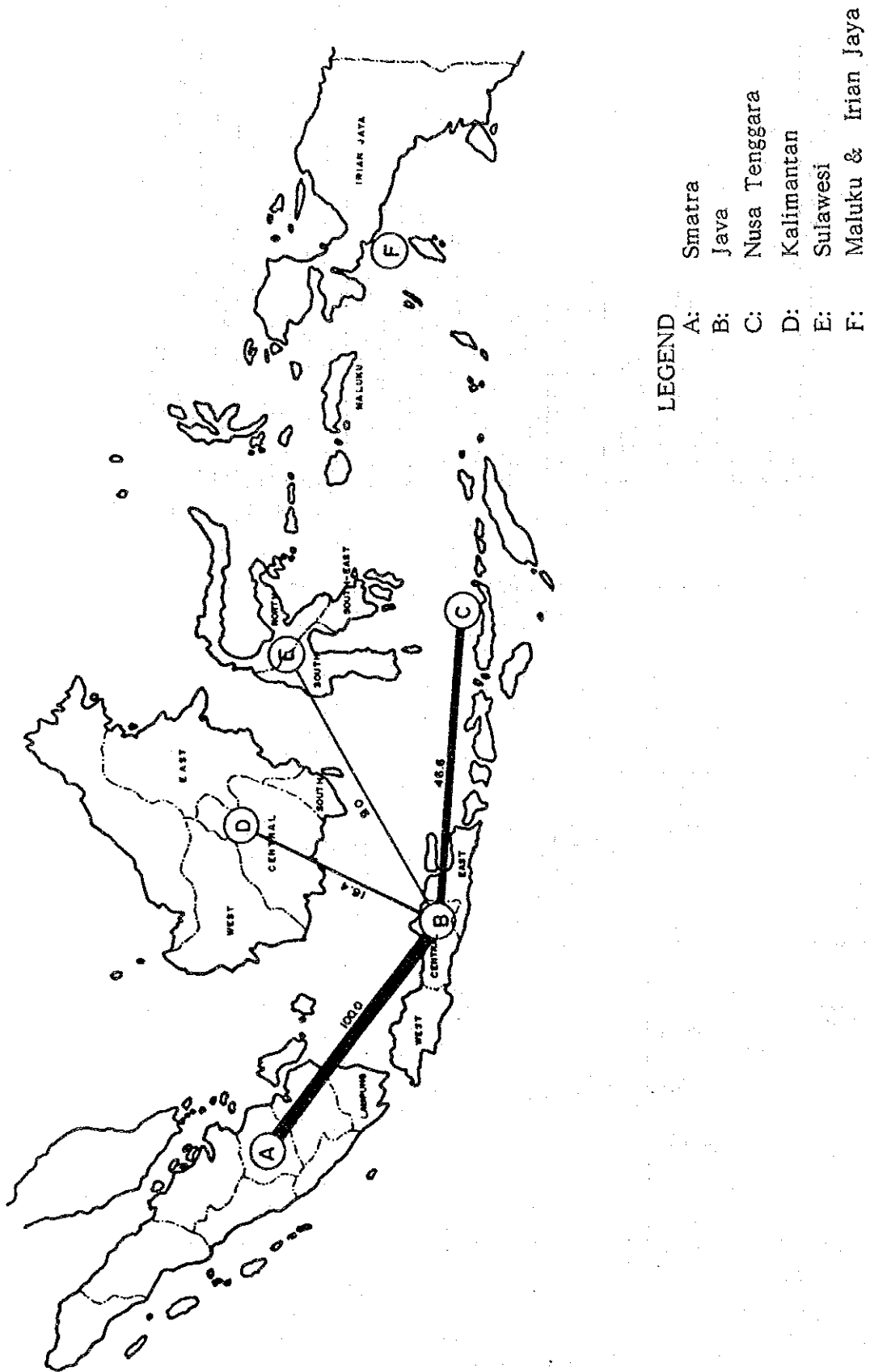
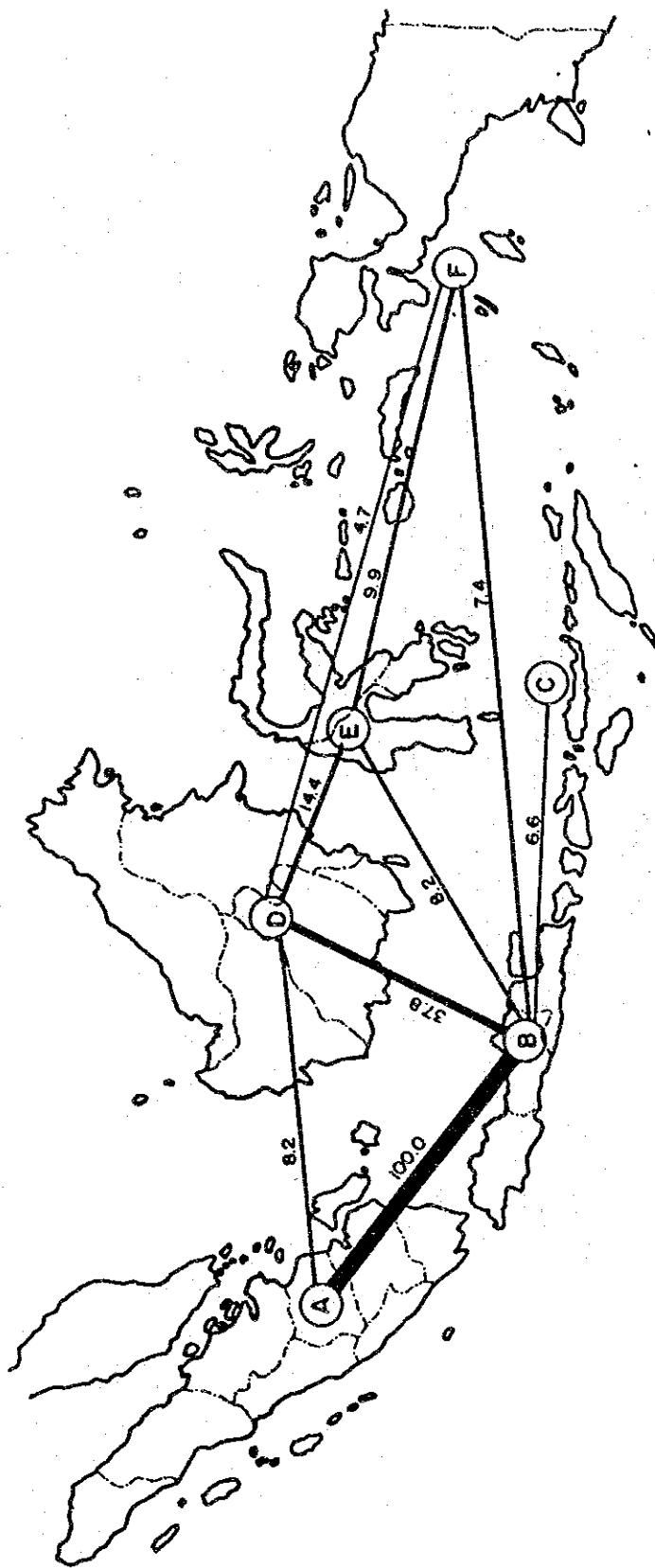


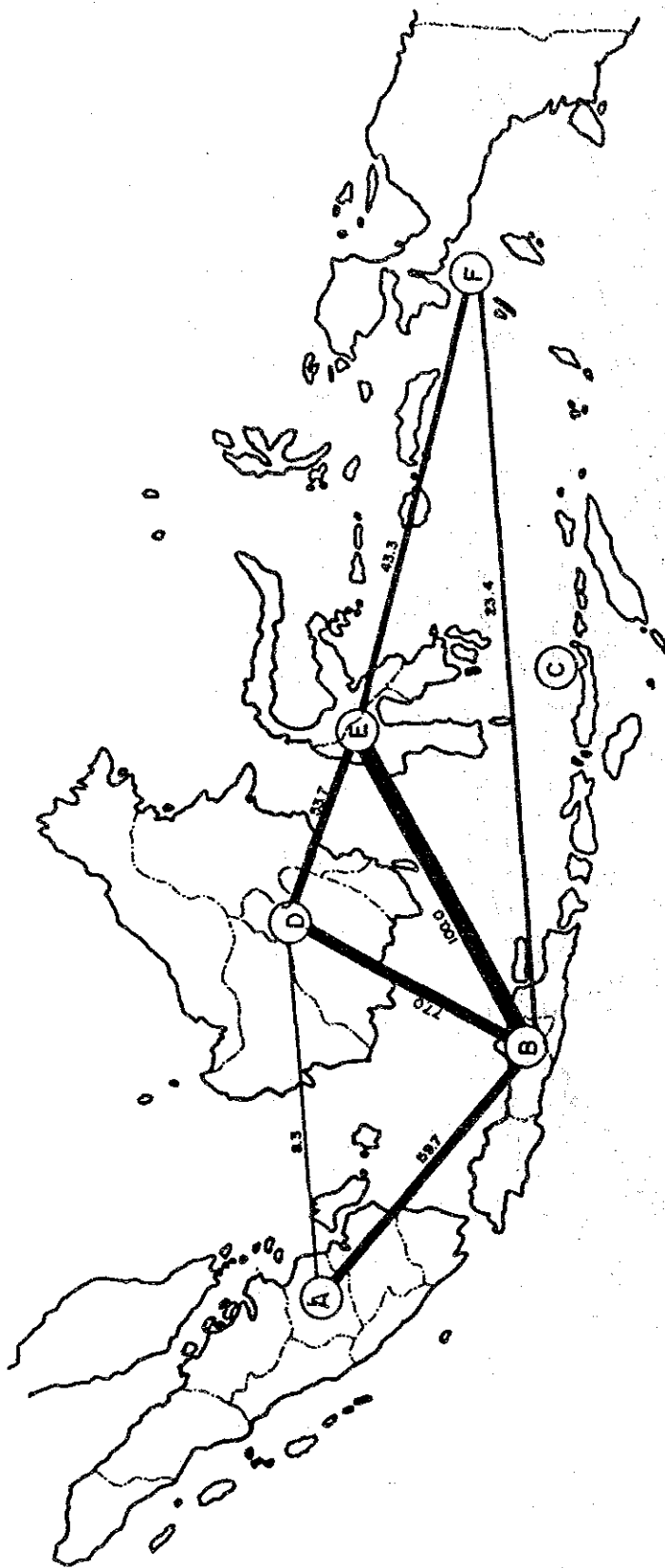
Fig. 1-2-1A Distribution of Passengers  
(Conventional Ship + Ferry Bout + Air Plane)



LEGEND

- A: Smatra
- B: Java
- C: Nusa Tenggara
- D: Kalimantan
- E: Sulawesi
- F: Maluku & Irian Jaya

Fig. 1-2-2A Distribution of Cargoes  
(Conventional Ship + Ferry Bout)

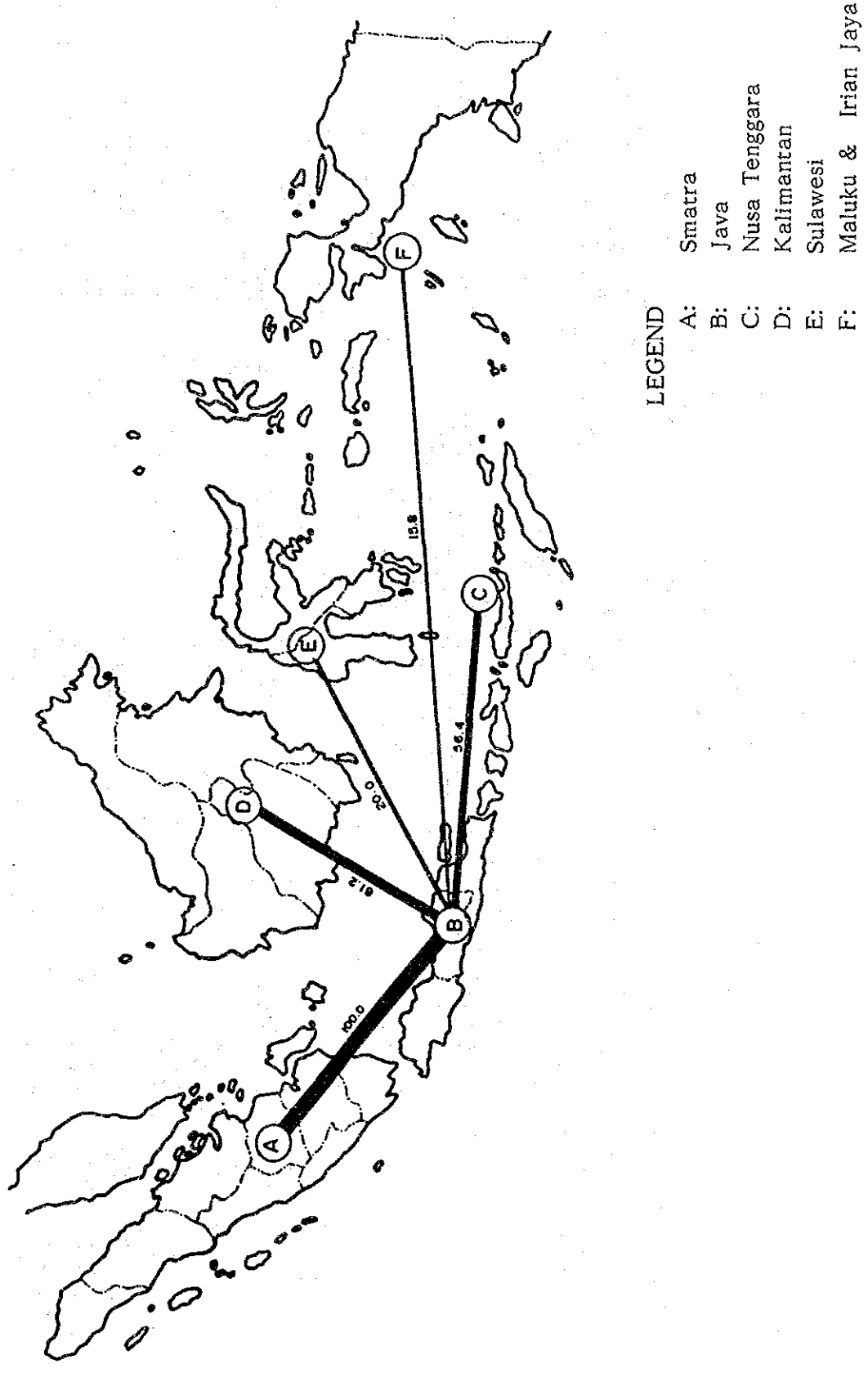


LEGEND

- A: Smatra
- B: Java
- C: Nusa Tenggara
- D: Kalimantan
- E: Sulawesi
- F: Maluku & Irian Jaya

Fig. 1-2-3A Distribution of Passengers  
(Conventional Ship)





LEGEND

- A: Smatra
- B: Java
- C: Nusa Tenggara
- D: Kalimantan
- E: Sulawesi
- F: Maluku & Irian Jaya

Fig. 1-2-4A Distribution of Passengers  
(Air Plane)

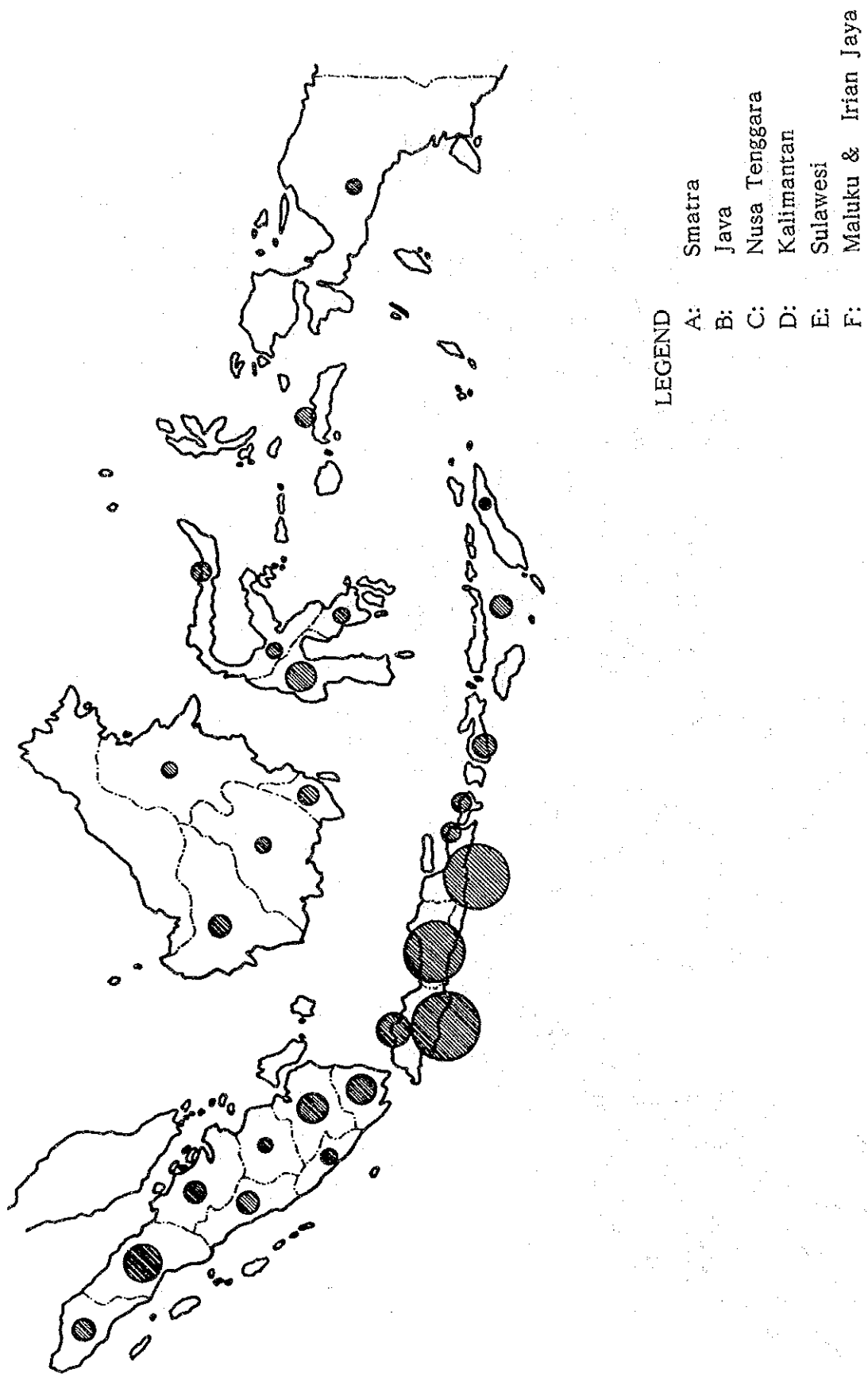
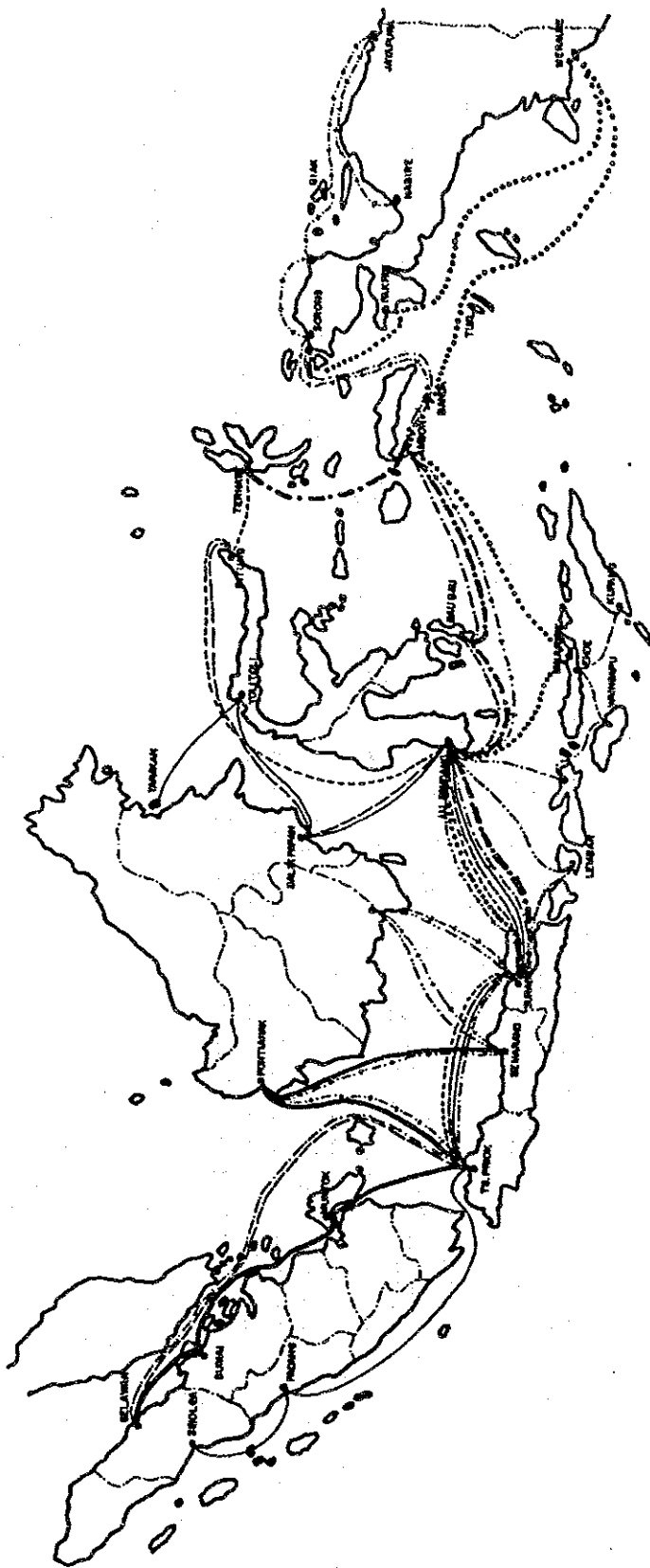


Fig. 1-2-5A Distribution of Population



**KAPAL - KAPAL MILIK PT. PELNI**

NO	NAMA KAPAL	DWT
1	KM. KERINCI	3400
2	KM. KANGUNA	3400
3	KM. RINJANI	3434
4	KM. UMSINI	3434
5	KM. KELIMUTU	1450
6	KM. LAWIT	1450
7	KM. TIDAR	3420
8	KM. TATANALAU	1400
9	KM. SIRIMAU	1400

Fig. 1-2-6A Network of Routes of Passenger Ships (Conventional Ships)

Table 1-2-1A Characteristics of the Planning Routes

Characteristics	Route Number												
	1	2-1	2-2	3-1	3-2	3-3	4	5	6	7	8	9-1	9-2
A: Route Category													
A-1: National Route													
A-2: Regional Trunk Route	○											○	
A-3: Regional Route		○	○	○	○	○	○	○	○	○	○	○	○
B: Distance Type / Service Type													
B-1: Long Distance / Nighttime Serv.			○			○						○	○
B-2: Short Distance / Daytime Serv.	○	○		○	○	○	○	○	○	○	○	○	○
C: Transportation Type / Demand Type													
C-1: Connecting with Prov. Cap. City	○											○	○
C-2: Connecting with Local City		○	○	○	○	○	○	○	○	○	○	○	○

Note:

1. Route 1: Ambon Isl. (Hunimua) ~ Seram Isl. (Waipirit)
- Route 2-1: Biak Isl. ~ Yapen Isl.
- Route 2-2: Yapen Isl. ~ Irian Jaya (Nabire)
- Route 3-1: Flores Isl. ~ Adonara Isl. ~ Lomblen Isl.
- Route 3-2: Alor Isl. ~ Pantar Isl.
- Route 3-3: Flores (Larantuka) ~ Alor (Kalabahi)
- Route 4: Sulawesi ~ Kabaena
- Route 5: Kabaena ~ Muna
- Route 6: Sulawesi ~ Wawoni
- Route 7: Morotai Isl. ~ Halmahera Isl.
- Route 8: Sulawesi (Bajoe) ~ Sulawesi (Kolaka)
- Route 9-1: Sumatra (Palembang) ~ Bangka Isl.
- Route 9-2: Bangka Isl. ~ Belitung Isl.

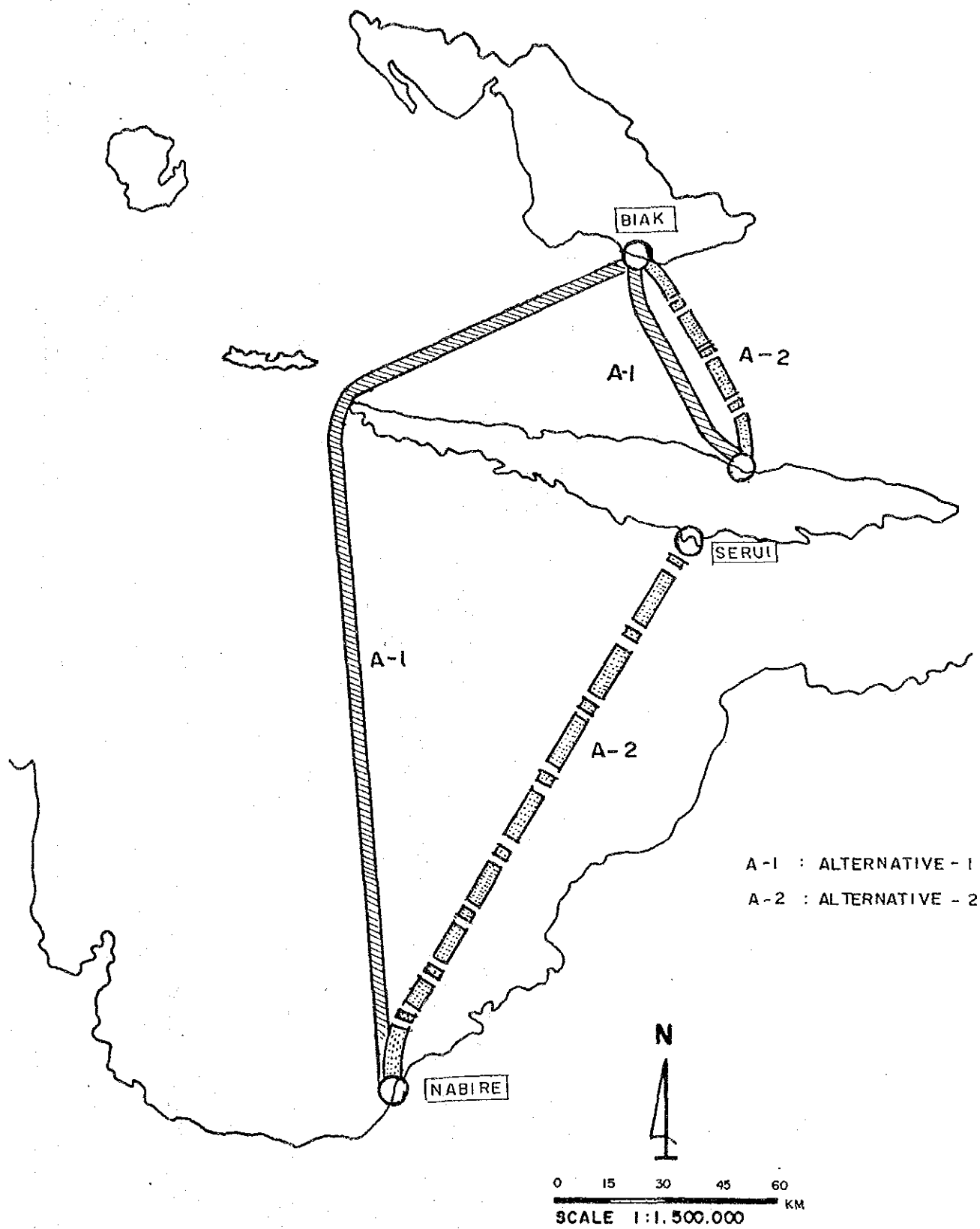


Fig. 2-2-1A Alternatives of Ferry Service Route

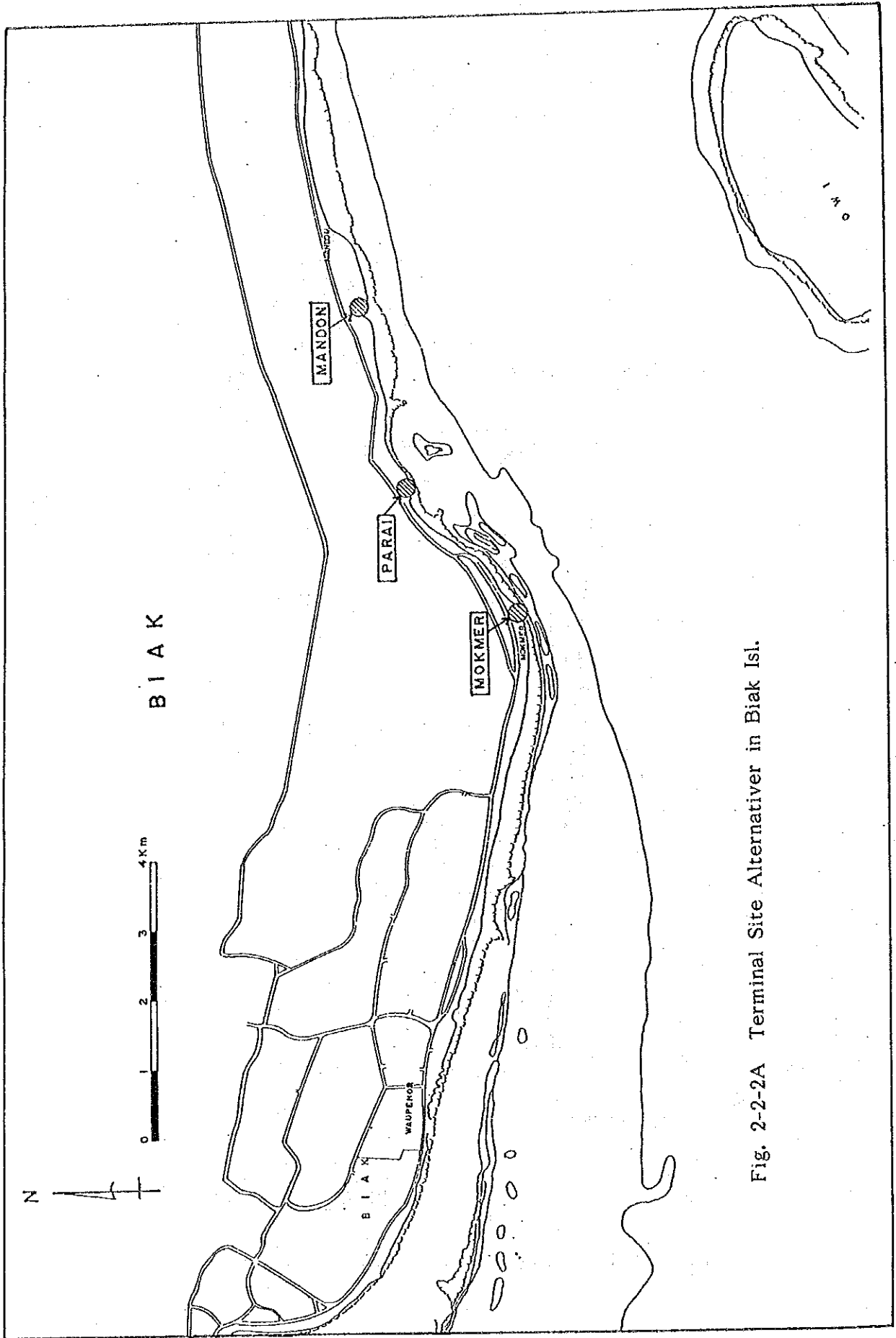


Fig. 2-2-2A Terminal Site Alternativer in Biak Isl.

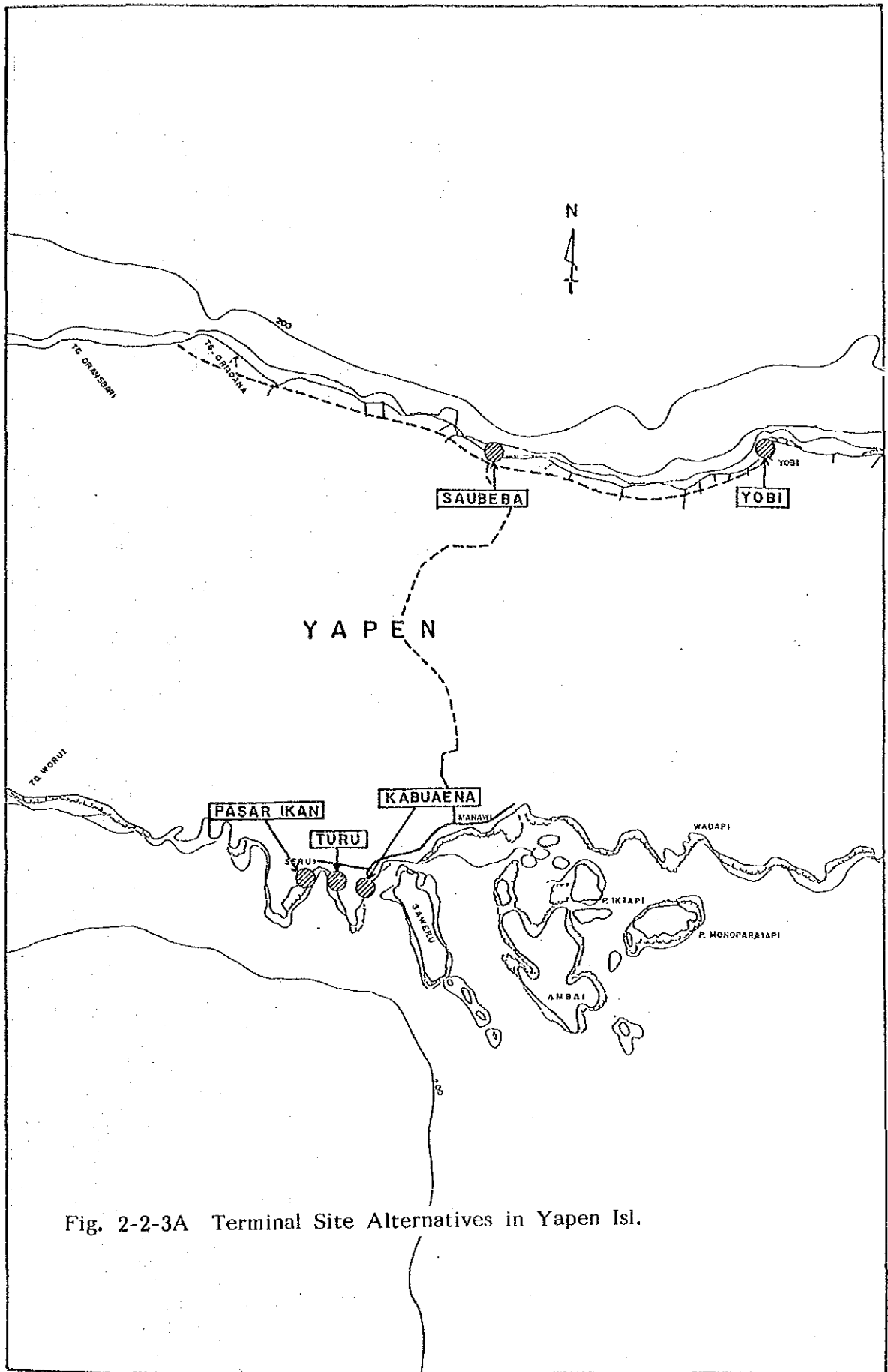


Fig. 2-2-3A Terminal Site Alternatives in Yapen Isl.

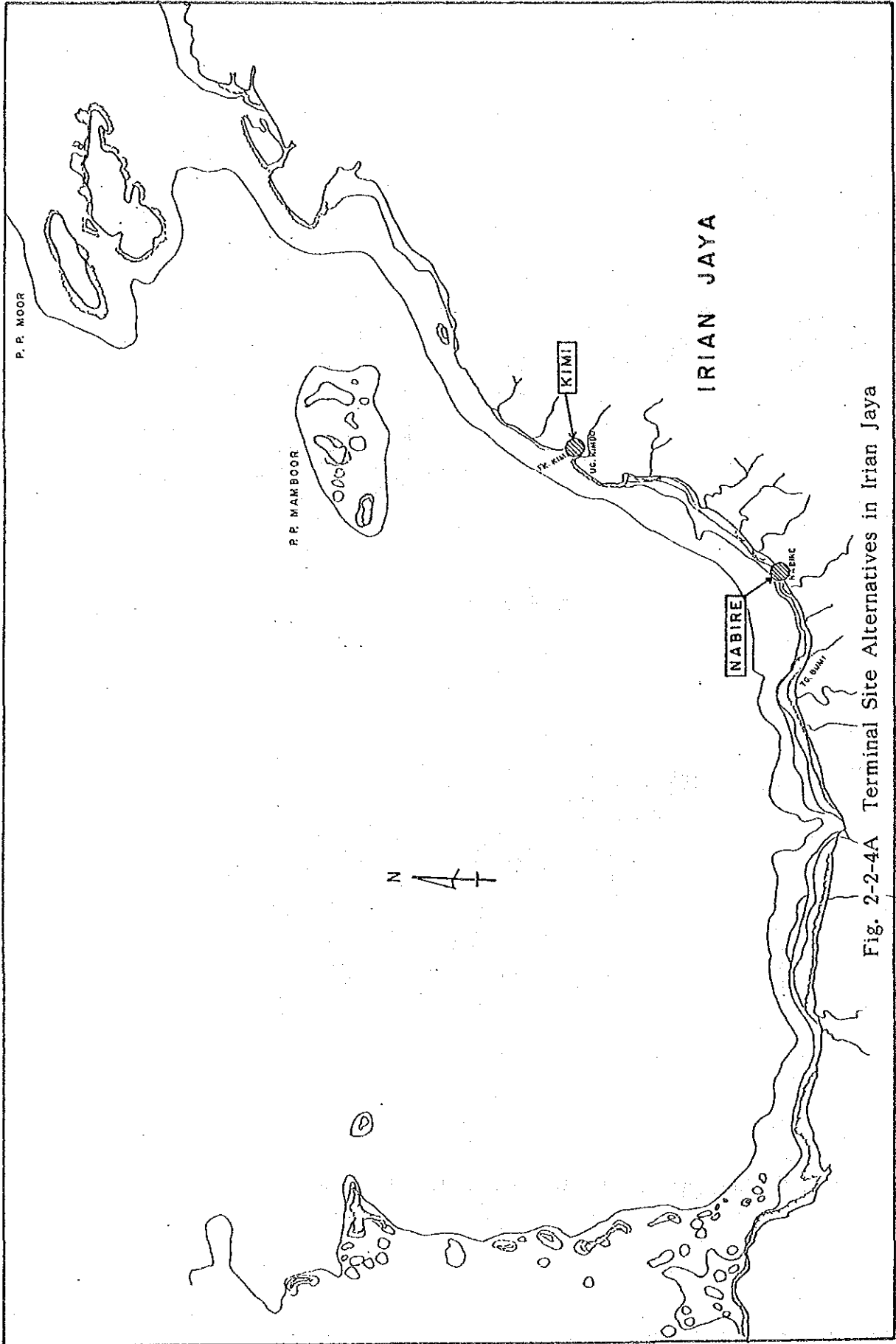
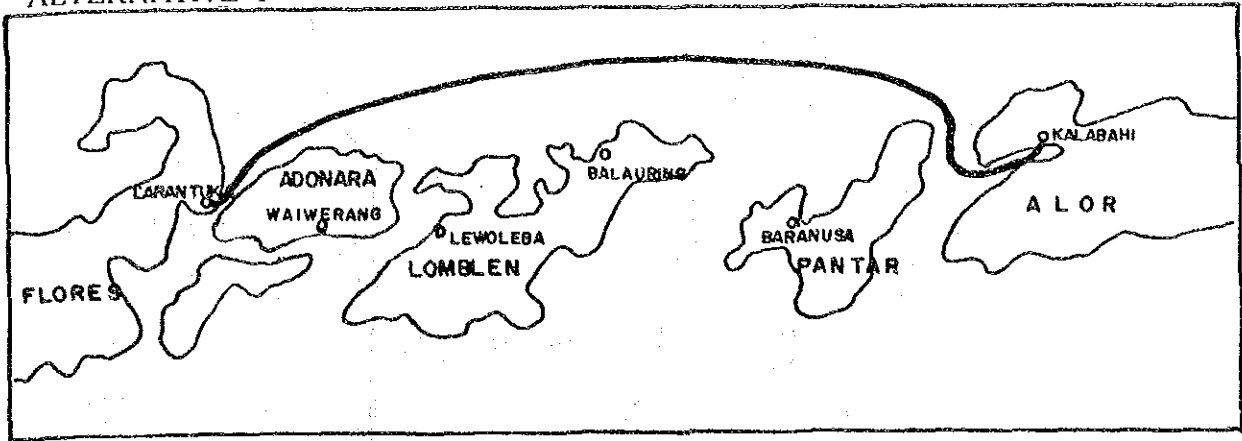


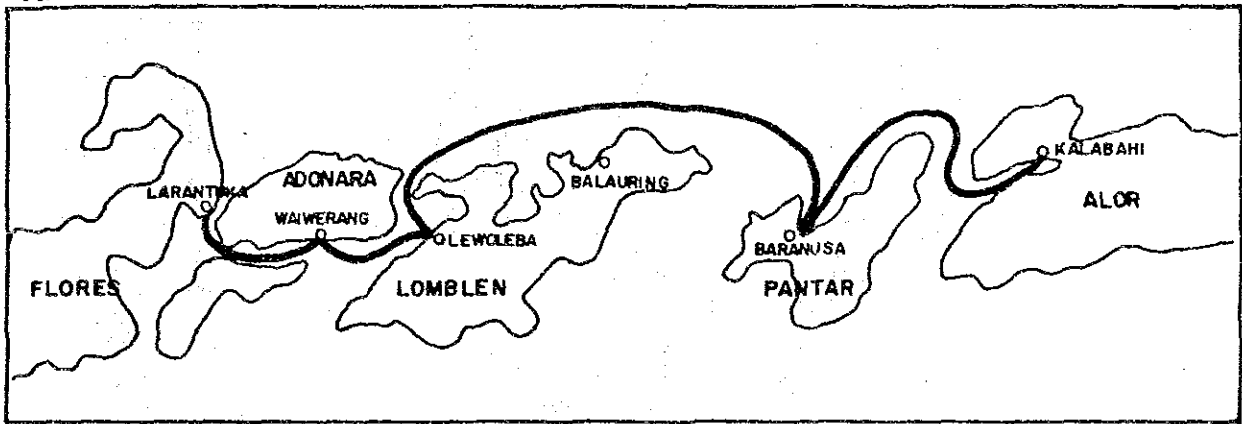
Fig. 2-2-4A Terminal Site Alternatives in Irian Jaya



ALTERNATIVE 1



ALTERNATIVE 2-1



ALTERNATIVE 2-2

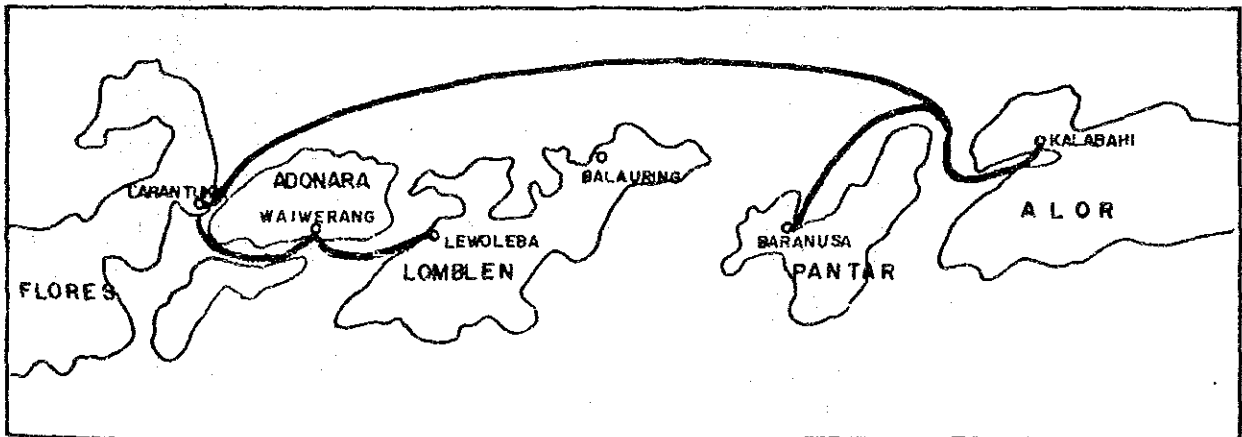


Fig. 2-3-1A Alternatives of Ferry Service Route

"A" : ALTERNATIVE -1  
"B" : ALTERNATIVE -2

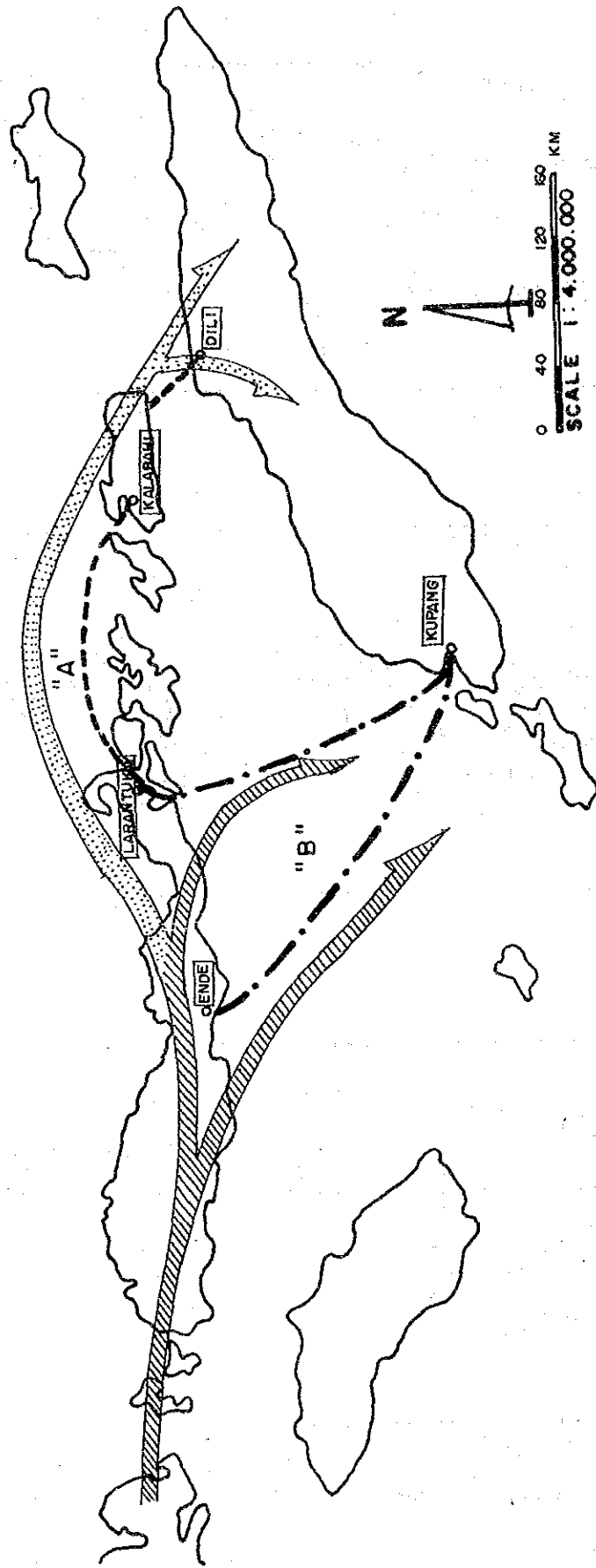


Fig. 2-3-2A Alternatives of "National" Ferry Service Route

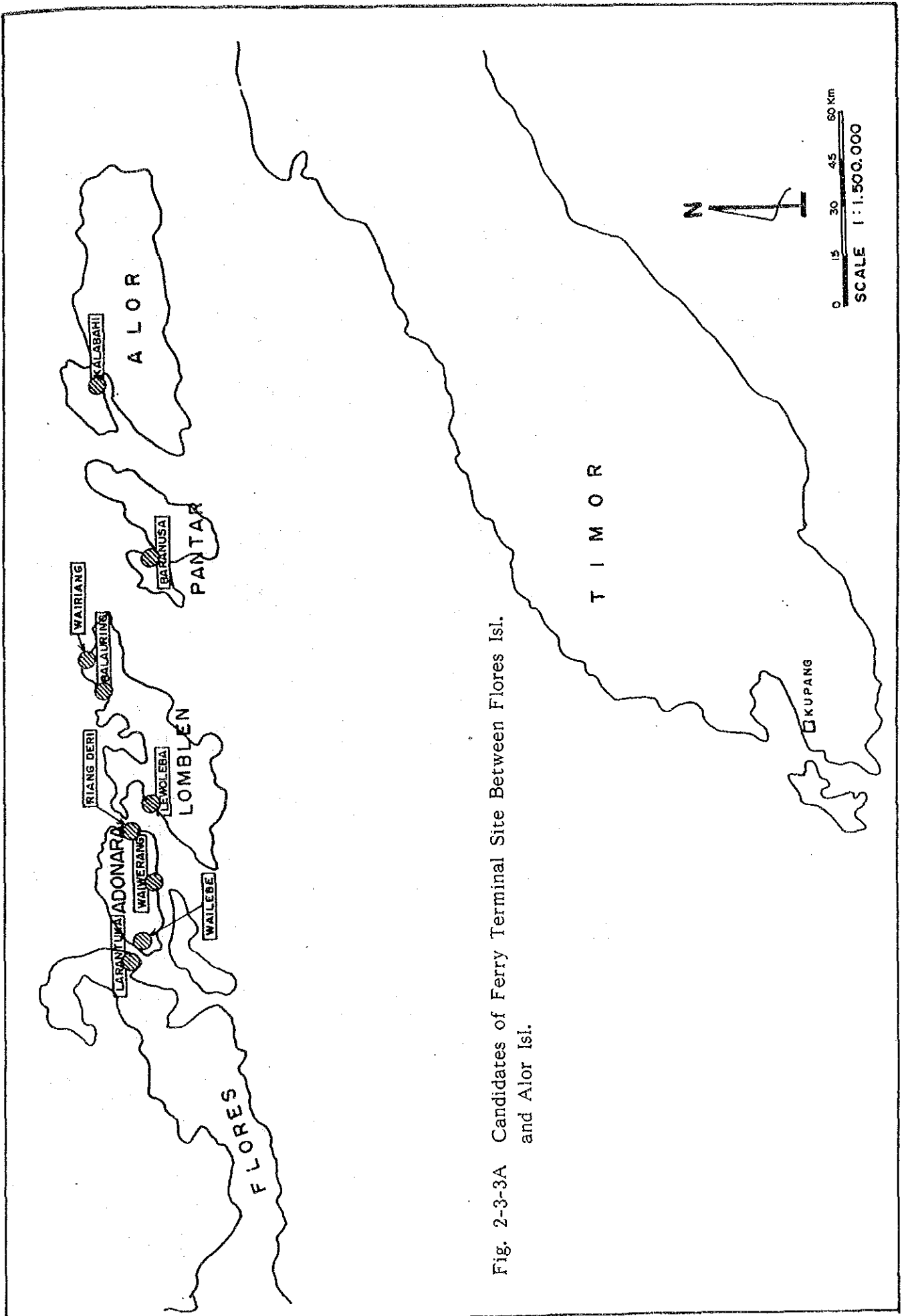


Fig. 2-3-3A Candidates of Ferry Terminal Site Between Flores Isl. and Alor Isl.

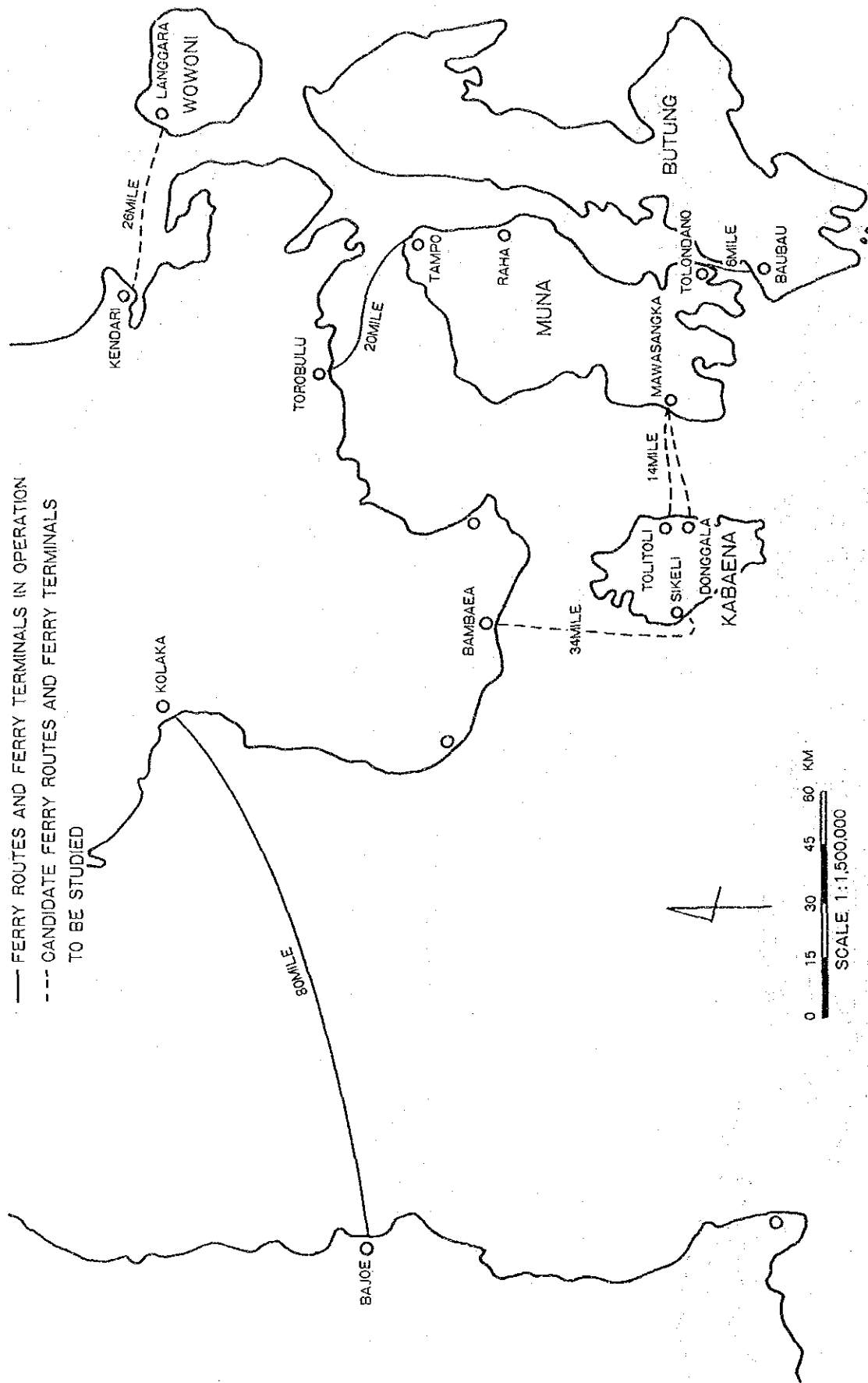


Fig. 2-4-1A Ferry network of Route-4,5,6 and 8

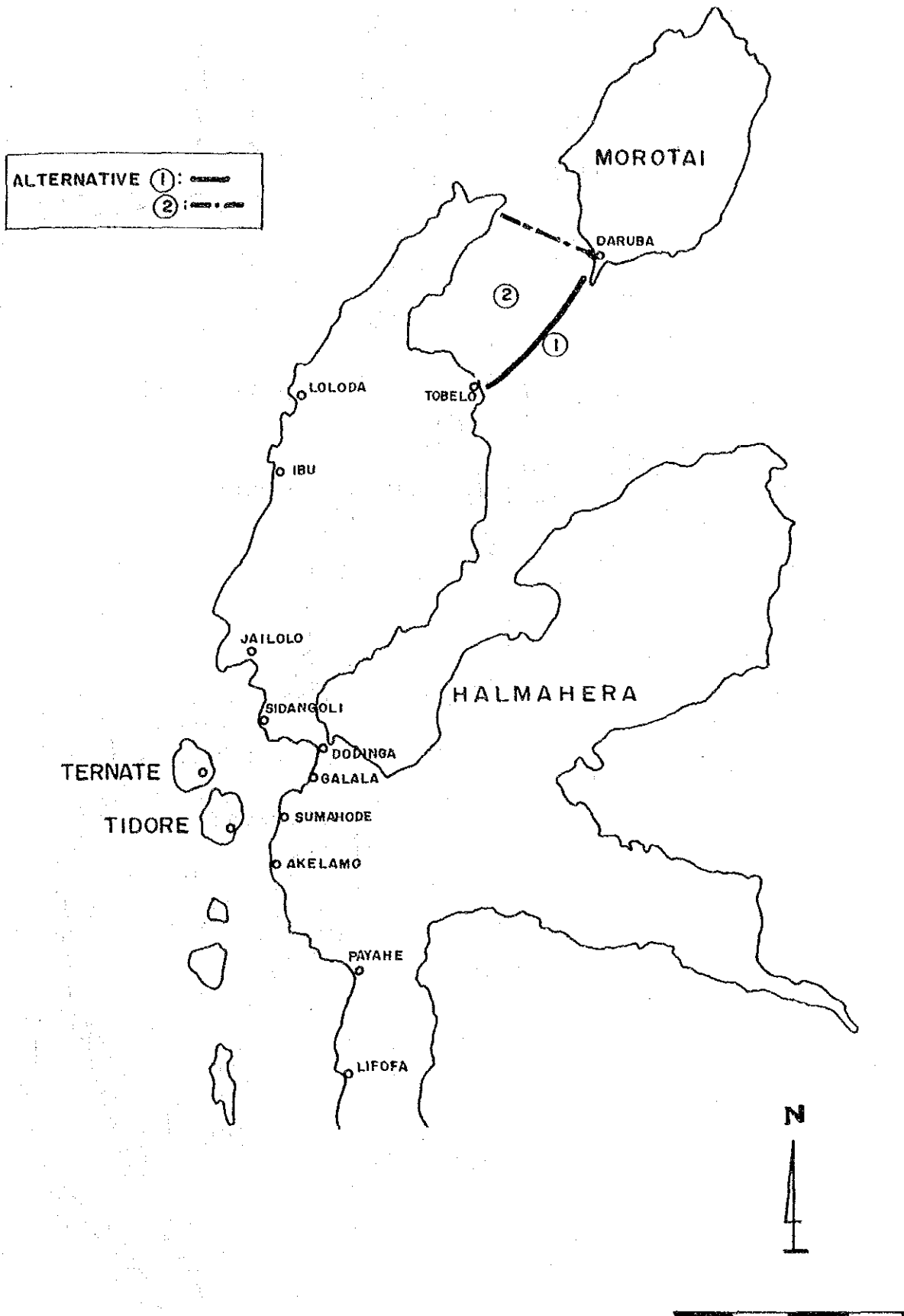


Fig. 2-7-1A Alternatives of Ferry Service Route Between Morotai Isl. and Halmahera Isl.

SCALE 1:1,500,000

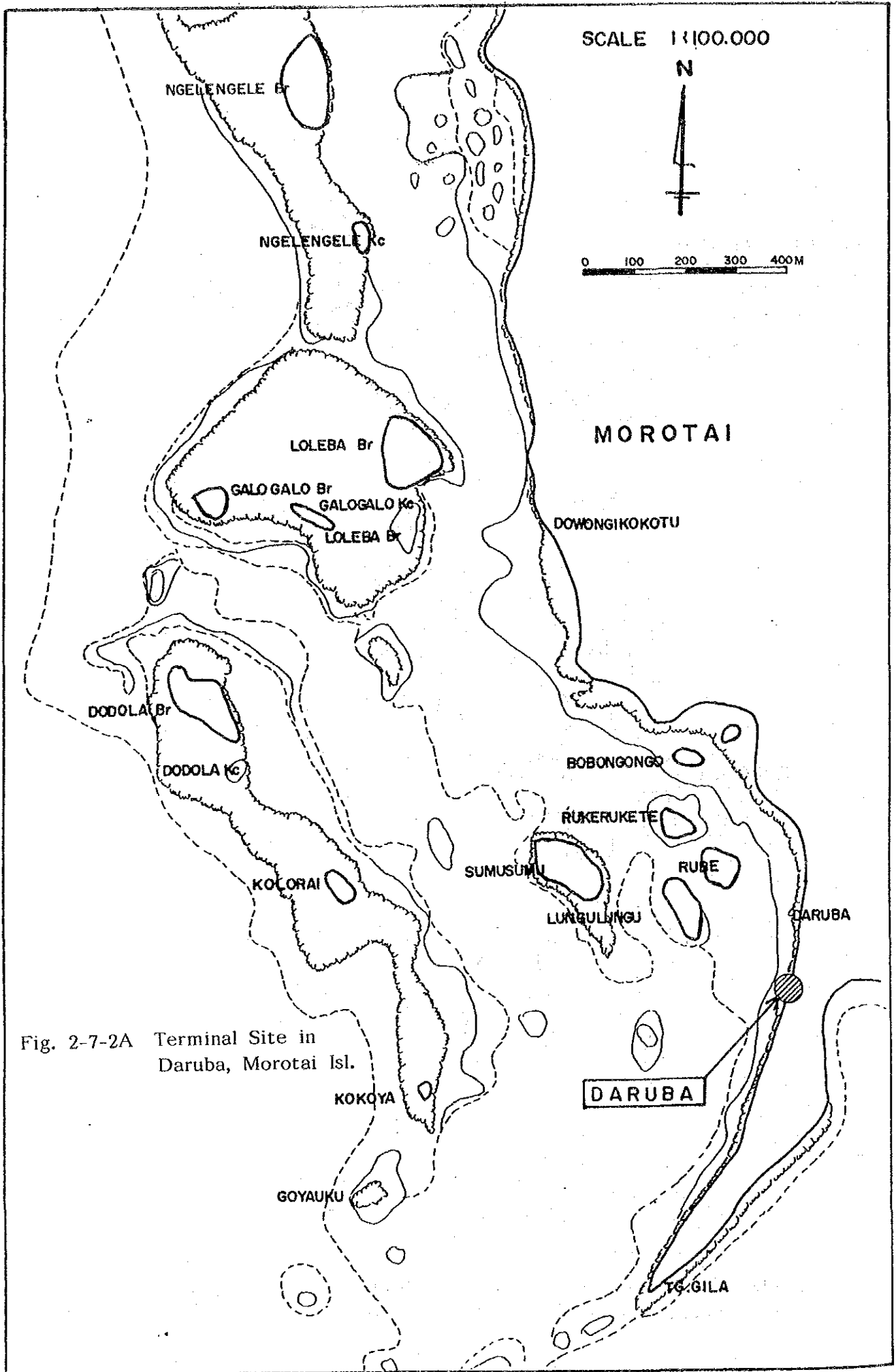


Fig. 2-7-2A Terminal Site in Daruba, Morotai Isl.

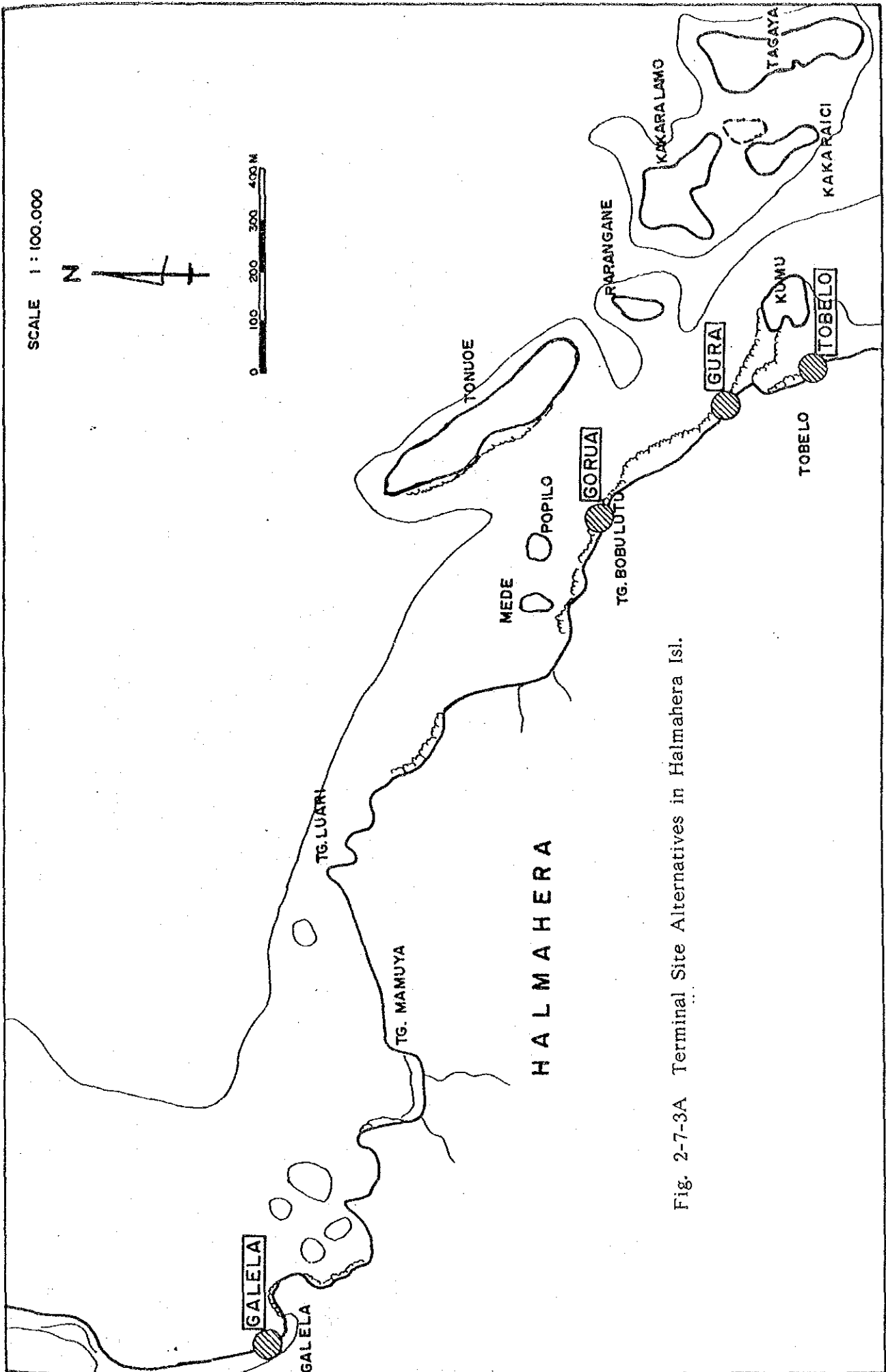


Fig. 2-7-3A Terminal Site Alternatives in Halmahera Isl.

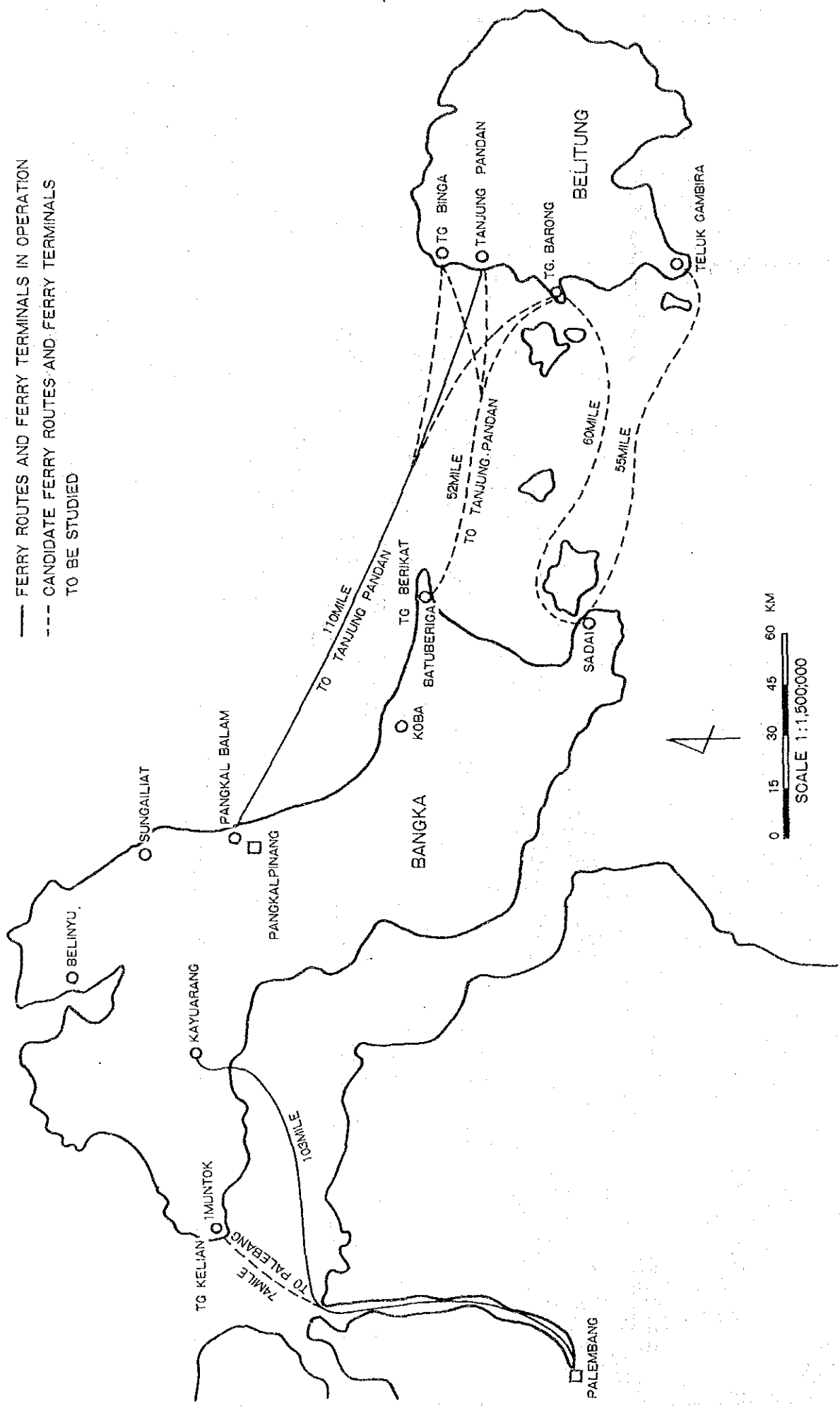


Fig. 2-9-1A Ferry network of Route-9



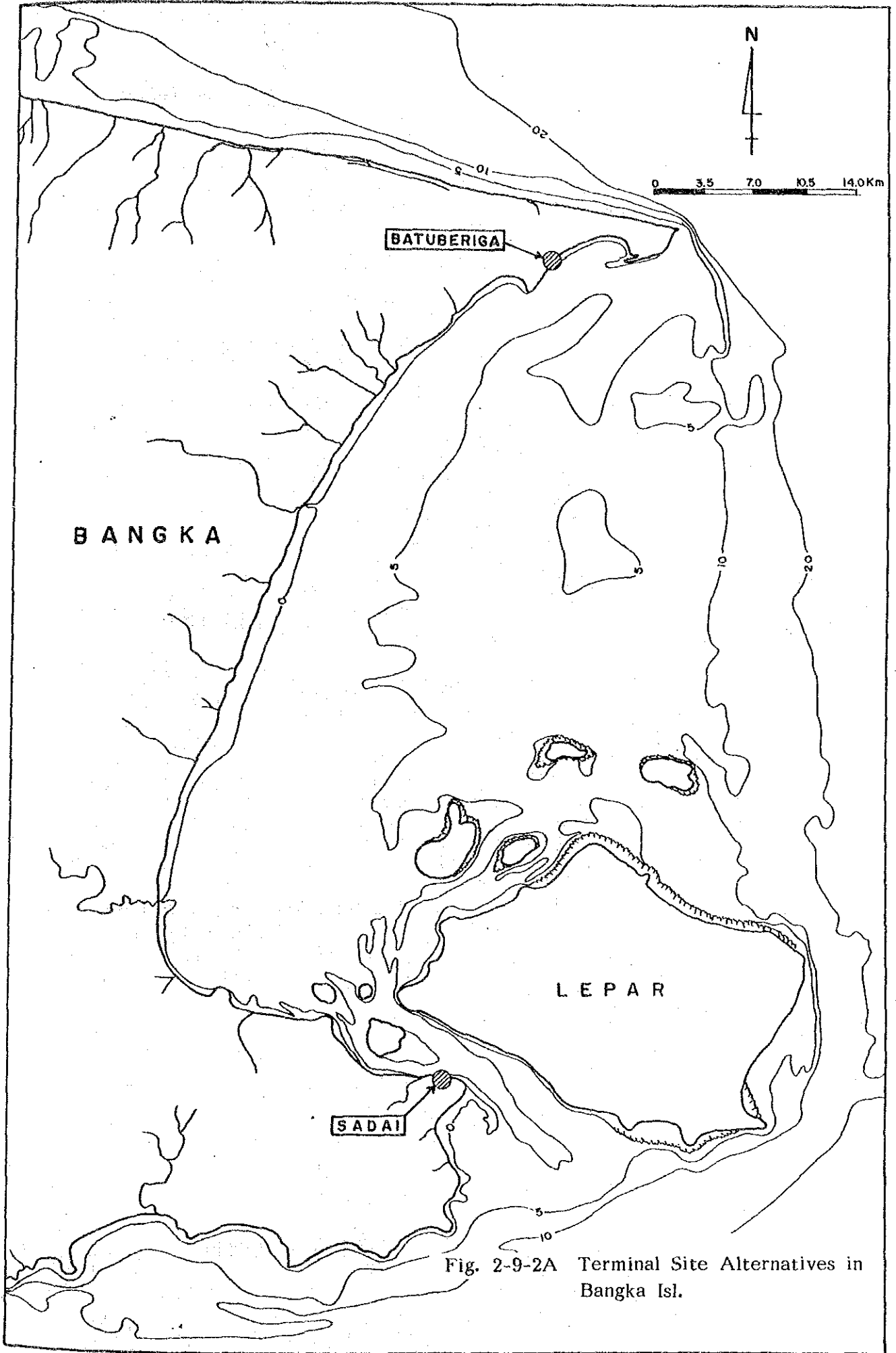


Fig. 2-9-2A Terminal Site Alternatives in Bangka Isl.

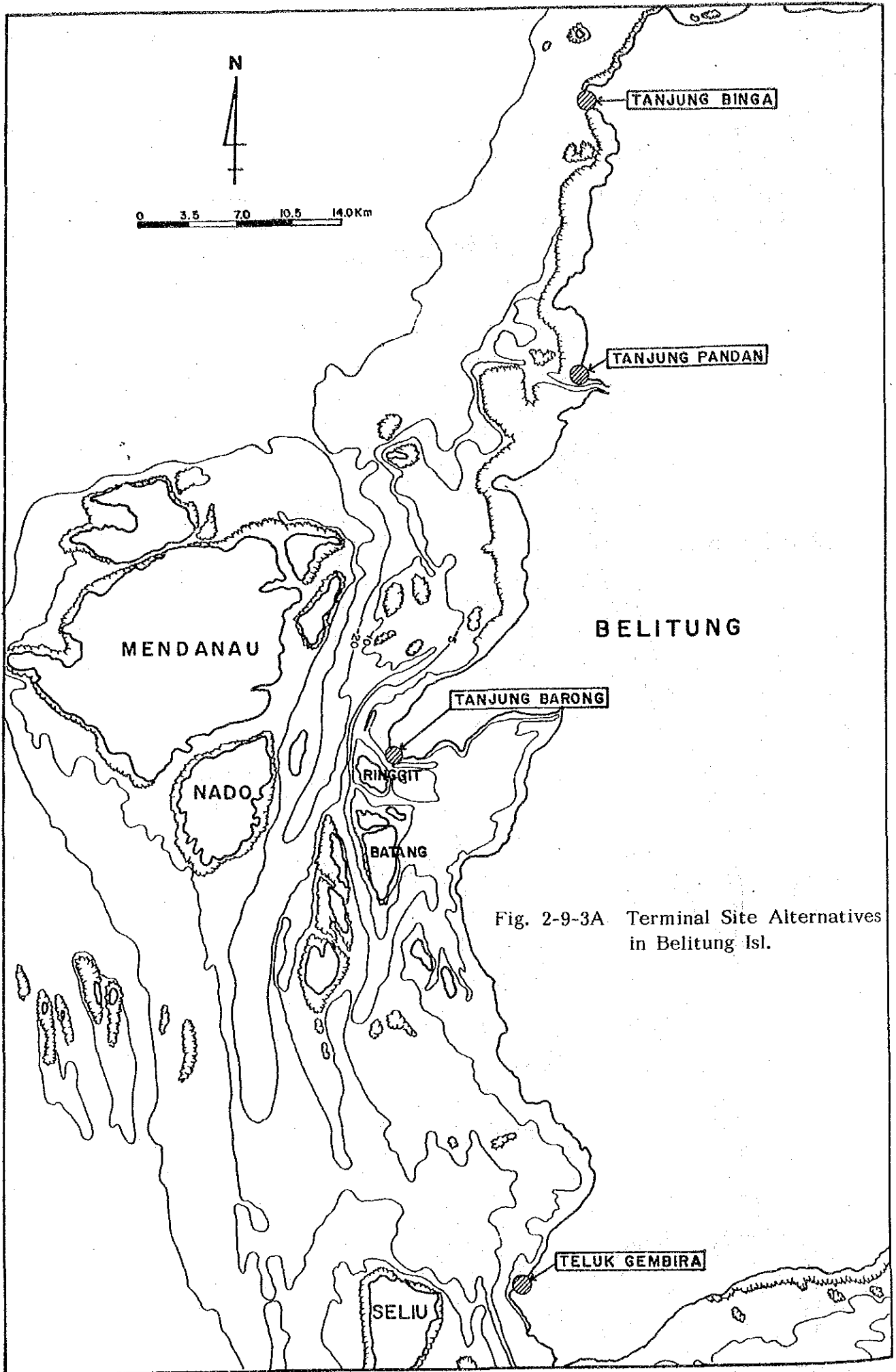


Fig. 2-9-3A Terminal Site Alternatives in Belitung Isl.

Table 3-2-1A Calculation of Elasticity

## All Ferry Routes

	Passenger	Cargo	GNP
1984	17,403,171	2,666,246	76,353,420
1985	17,655,436	2,726,372	78,927,331
1986	21,507,528	2,852,789	84,277,240
1987	21,539,255	3,560,964	89,039,543
1988	25,202,743	4,850,856	94,515,697
1989	28,348,718	4,892,589	98,553,676
1990	31,624,598	6,330,354	103,197,353
86-90	0.1047	0.1550	0.0515
Elasti	2.0327	3.0104	

## All Transportation Means

Passenger						
	Ferry	Train	Sea	Pelni	Air	Total
1986	21,507,528	49,401,868	1,392,330	1,245,600	5,837,161	79,384,487
1987	21,539,255	49,888,731	1,392,330	1,406,160	6,081,513	80,307,989
1988	25,202,743	52,404,810	1,648,020	1,661,370	6,934,388	87,851,331
1989	28,348,718	55,459,623	1,069,660	2,151,700	7,307,955	94,337,656
1990	31,624,598	58,034,805	1,281,351	2,369,477	7,319,468	100,629,699
	Total	GNP	Population			
1986	79,384,487	84,277,240	168,347,515			
1987	80,307,989	89,039,543	172,009,540			
1988	87,851,331	94,515,697	175,588,836			
1989	94,337,656	98,553,676	179,136,110			
1990	100,629,699	103,197,353	179,321,641			
86-90	0.0611	0.0519	0.0159	Elasticity(86-90) All transportation		1.1760
Cargo						
	Ferry	Train	Sea	Pelni	Air	Total
1986	2,852,789	7,475,403	14,836,000	887,990	60,763	26,112,945
1987	3,560,964	8,562,792	14,836,000	920,560	70,281	27,950,597
1988	4,850,856	10,215,907	15,897,000	937,090	77,196	31,978,049
1989	4,892,589	11,724,265	8,588,530	1,035,860	76,227	26,317,471
1990	6,330,354	12,536,701	9,923,040	1,232,900	91,948	30,114,943
	Total	GNP	Population			
1986	26,112,945	84,277,240	168,347,515			
1987	27,950,597	89,039,543	172,009,540			
1988	31,978,049	94,515,697	175,588,836			
1989	26,317,471	98,553,676	179,136,110			
1990	30,114,943	103,197,353	179,321,641			
86-90	0.0363	0.0519	0.0159	Elasticity(86-90) All transportation		0.6987

Bajoe-Kolaka Route

	Passenger	smoothing	Cargo	smoothing
1979	103,766	97,379	23,670	21,931
1980	120,798	110,483	14,827	22,975
1981	158,828	123,587	32,078	24,019
1982	147,872	136,691	36,740	25,063
1983	166,637	149,795	26,948	26,107
1984	104,959	162,899	15,811	27,151
1985	109,456	176,003	10,516	28,195
1986	186,119	189,107	15,333	29,239
1987	204,480	202,211	37,701	30,283
1988	241,286	215,315	40,102	31,327
1989	177,905	228,419	30,182	32,371
1990	264,303	241,523	36,344	33,415
86-90		0.0631		0.0339
Elasticity		1.2144		0.6535

Railway(Jawa)

	Passenger	Cargo	GRDP(Jawa)
1986	46,787,572	3,555,097	46471
1987	47,270,022	4,494,020	49350
1988	50,219,598	4,969,163	52229
1989	53,256,692	5,247,861	55108
1990	55,823,178	4,963,532	57987
86-90	0.0451	0.0870	0.0569
Elasticity	0.7931	1.5290	

Source : DGLT, PERHUBUNGAN DALAM ANGKA

Table 3-2-2A The Existing Routes used to decide the parameters

1. Routes longer than 50 miles				Passenger	
1990	Pi	Pj	Distance	Data	Forecast
Kupang-Sabu	60,683	522,944	115	8,921	10,000
Kupang-Kalabahi	67,795	522,944	137	12,209	11,000
Bangka-Belitung	188,996	357,325	110	28,068	30,000
Kupang-Larantu, Ende	296,940	522,944	133	53,411	50,000
Palembang-Kayuarang	445,351	1,144,279	83	81,119	84,000
2. Routes shorter than 50 miles				Passenger	
1990	Pi	Pj	Distance	Data	Forecast
Baubau-Wara	17,195	64,536	6	8,784	9,000
Trobulu-Tampo	54,540	488,392	20	30,589	30,000
Bira-Pamatata	52,767	912,883	17	37,954	39,000
Kupang-Rote	65,142	522,944	35	70,612	62,000
Hunimua-Waipirit	254,275	367,790	11	300,141	310,000

Table 3-2-3A The parameters by recurrent analysis

1. Routes longer than 50 miles		
a= 1.0098325281	b= 0.1414694	k= 0.0022938
correlation coefficient r = 0.9957		
2. Routes shorter than 50 miles		
a= 1.3233301437	b= 0.0036692	k= 0.0207708
correlation coefficient r = 0.9861		

$$T_{ij} = k * P_i^a * P_j^b * E$$

$T_{ij}$  : Passengers between i-zone and j-zone

$P_i$  : Population of i-zone (small)

$P_j$  : Population of j-zone (large)

E, k, a, b : Parameter

$$E = ( 1 + G * E_1 )$$

G : Growth rate of GRDP per capita

$E_1$  : Elasticity

Table 3-2-4A Traffic Volume of Ferry

1. Routes longer than 50 miles

Kupang-Sabu

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
88	58,212	16,762	1,038	150	0.0178	0.0089
89	59,435	10,655	1,254	0	0.0211	
90	60,683	8,921	672	0	0.0111	
91	61,957	12,686	676	0	0.0109	

Kupang-Kalabahi

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
88	65,035	23,456	798	22	0.0123	0.0009
89	66,401	12,944	1,625	125	0.0245	0.0097
90	67,795	12,209	685	121	0.0101	0.0099

Bangka-Belitung

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
85		11,723	1,028	287		0.0245
86	179,191	20,483	6,708	507	0.0374	0.0248
87	180,638	18,391	885	339	0.0049	0.0184
88	182,189	23,123	165	195	0.0009	0.0084
89	187,305	26,732	1,152	0	0.0062	
90	188,996	28,068	1,209	0	0.0064	

Kupang-Larantuka, Kupang-Ende total

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
91	296,940	53,411	2,475	0	0.0083	

Palembang-Kayuarang

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
81		29,948	983	0		
82		46,993	746	918		0.0195
83		45,714	1,315	699		0.0153
84		61,328	926	723		0.0118
85		65,337	559	714		0.0109
86	394,309	101,209	1,101	1,493	0.0028	0.0148
87	406,493	100,240	963	1,590	0.0024	0.0159
88	419,053	119,181	954	1,132	0.0023	0.0095
89	432,002	118,336	954	1,132	0.0022	0.0096
90	445,351	81,119	1,567	650	0.0035	0.0080

V-2 : Number of two-wheeled vehicles

Cargo/Pop : Transported cargo per one inhabitant

V-2/Pass : Number of two-wheeled vehicles per one passenger

Source : DGLT

2. Routes shorter than 50 miles

Torobulu-Tampo

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
87	49,796	17,823	233	732	0.0047	0.0411
88	51,329	31,837	1,151	0	0.0224	
89	52,910	29,133	1,678	845	0.0317	0.0290
90	54,540	30,589	1,761	887	0.0323	0.0290

Bira-Pamatata

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
81	40,160	28,039	987	0	0.0246	
82	41,397	16,635	1,321	1,187	0.0319	0.0714
83	42,672	22,975	1,857	2,348	0.0435	0.1022
84	43,986	15,414	1,276	1,731	0.0290	0.1123
85	45,341	16,465	956	2,058	0.0211	0.1250
86	46,737	53,331	3,523	1,650	0.0754	0.0309
87	48,177	44,903	3,281	3,268	0.0681	0.0728
88	49,661	49,615	2,848	3,311	0.0573	0.0667
89	51,190	62,562	4,074	3,905	0.0796	0.0624
90	52,767	37,954	2,191	2,320	0.0415	0.0611

Kupang-Rote

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
86	63,498	59,636	234	1,604	0.0037	0.0269
87	64,320	48,183	638	723	0.0099	0.0150
88	64,765	67,312	1,295	1,058	0.0200	0.0157
89	64,892	68,370	1,570	0	0.0242	
90	65,142	70,612	685	0	0.0105	

Hunimua - Waipirit

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
86	211,601	65,867	2,931	3,454	0.0139	0.0524
87	221,546	87,276	2,779	2,838	0.0125	0.0325
88	231,959	196,630	4,429	4,710	0.0191	0.0240
89	242,861	196,059	4,166	5,383	0.0172	0.0275
90	254,275	300,141	6,130	7,514	0.0241	0.0250
91	260,098	348,368	5,342	9,194	0.0205	0.0264

Bajoe-Kolaka

Year	Population	Passenger	Cargo	V-2	Cargo/Pop	V-2/Pass
87	632,862		37,701	3,268	0.0596	
88	651,369	179,903	40,102	3,311	0.0616	0.0184
89	666,168	229,893	30,182	3,905	0.0453	0.0170
90	728,074	304,776	36,344	2,320	0.0499	0.0076
91	750,499	304,738	42,859	2,960	0.0571	0.0097



Table 3-2-5A Ratio of Passenger cars per Passenger

More Than 50 Miles Routes

Kupang-Larantuka

Year	Passenger	Cars	Ratio
88	45,298	1,320	0.0291
89	47,408	1,128	0.0238
90	36,904	589	0.0160

Palembang-Kayuarang

Year	Passenger	Cars	Ratio
91	51,607	1,852	0.0359

Less Than 50 Miles Routes

Baubau - Tolandona

Year	Passenger	Cars	Ratio
90	8,784	272	0.0310
91	61,001	1,440	0.0236

Bira-Pamatata

Year	Passenger	Cars	Ratio
89	62,562	1,921	0.0307
90	37,954	1,024	0.0270

Hunimua - Waipirit

Year	Passenger	Cars	Ratio
91	348,368	3,011	0.0086

Bajoe - Kolaka

Year	Passenger	Cars	Ratio
89	229,893	5,991	0.0261
90	304,776	8,933	0.0293
91	304,738	7,002	0.0230

Note: Ratio : Passenger cars per Passenger  
Cars : Passenger cars

Source : DGLT

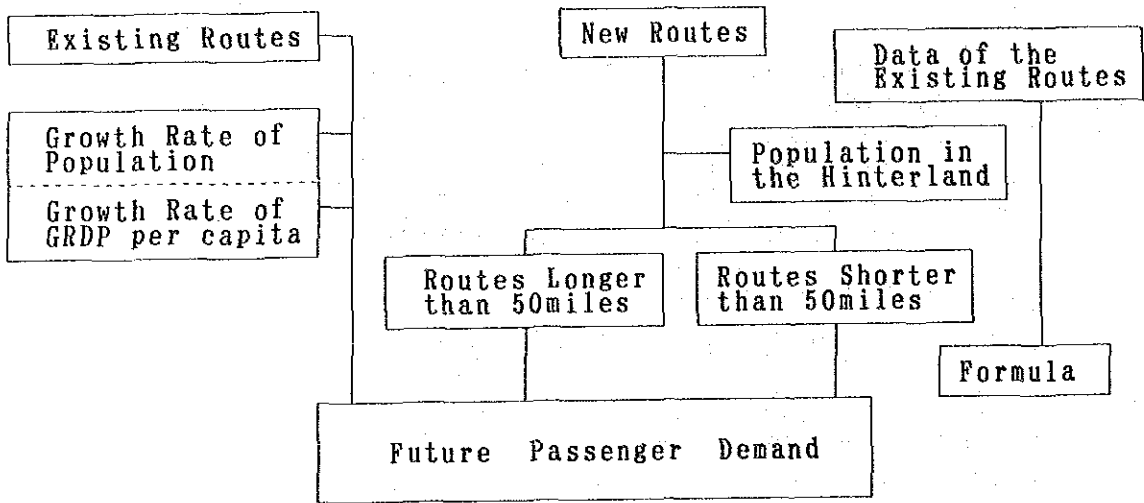


Fig. 3-2-1A Flow Chart of Passenger Demand Forecast

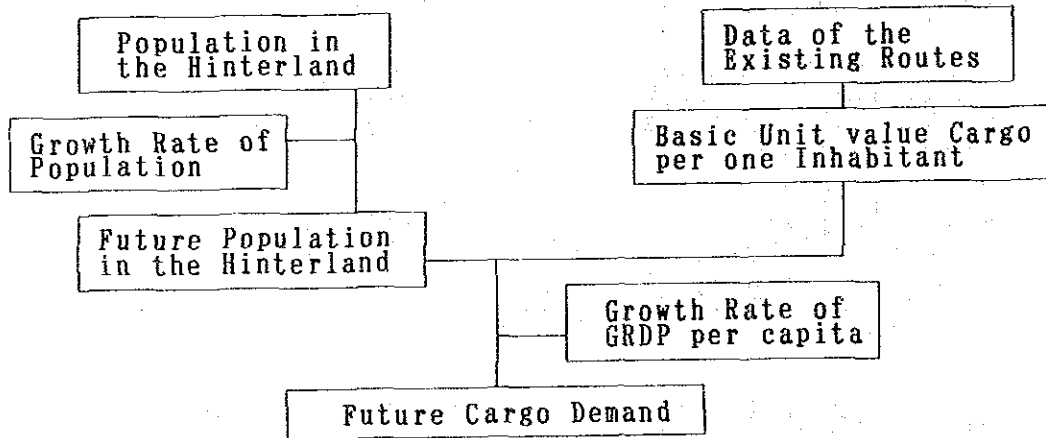


Fig. 3-2-2A Flow Chart of Cargo Demand Forecast

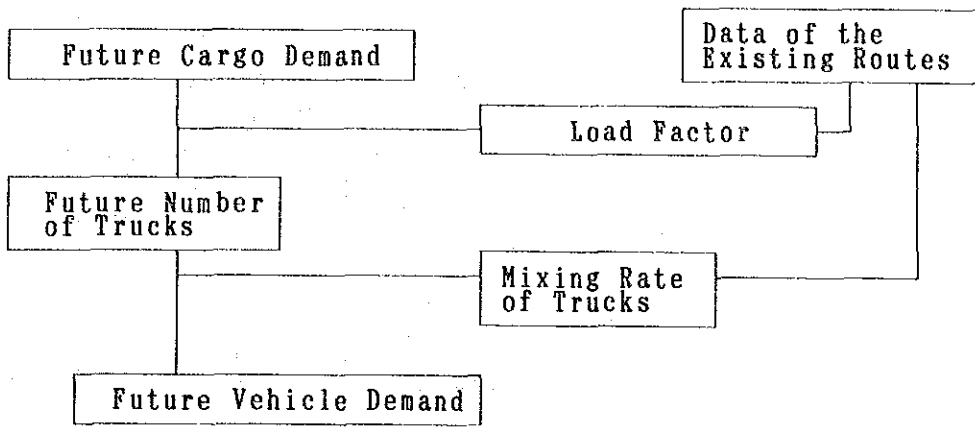


Fig. 3-2-3A Flow Chat of Vehicle Demand Forecast

Table 3-3-1 Population of the Hinterland in Each Route (1990)

	Route	Population:	Pi	Population:	Pj
1	Hunimua-Waipirit	254,275	Seram Is.(Part)	367,790	Ambon Is.
2-1	Mokumer-Sabuaena	50,766	Yapen Is.	75,343	Biak Is.
2-2	Kabuaena-Kimi	38,411	Kec.Nabire	50,766	Yapen Is.
3-1	Larantuka-Terong	33,562	Larantuka	83,439	Adonara Is.
3-2	Larantuka-Lewoleba	33,562	Larantuka	84,875	Lomblen Is.
3-3	Larantuka-Kalabahi	33,562	Larantuka	110,585	Alor Is.
3-4	Baranusa-Kalabahi	34,035	Pantar Is.	110,585	Alor Is.
4	Kabaena-Bambaea	12,325	Kec.Kabaena	63,159	3 Kec.
5	Kabaena-Mawasangka	14,126	Kec.Kabaena Timur	26,955	Kec.Mawasangka
6	Kendari-Wawonii	21,051	Wawonii Is.	488,392	Kab.Kendari
7	Morotai-Halmahera	44,328	Morotai Is.	62,943	Tobelo+Galela Bone +
8	Bajoe-Kolaka	728,074	Kendari+Kolaka	1,523,198	Kod.Ujungpandang
9-1	Palembang-Bangka	445,351	Bangka Is.(Part)	1,144,279	Kod.Palembang
9-2	Sedai-Tanjung Baron	188,996	Belitung Is.	357,324	Bangka Is.(Part)

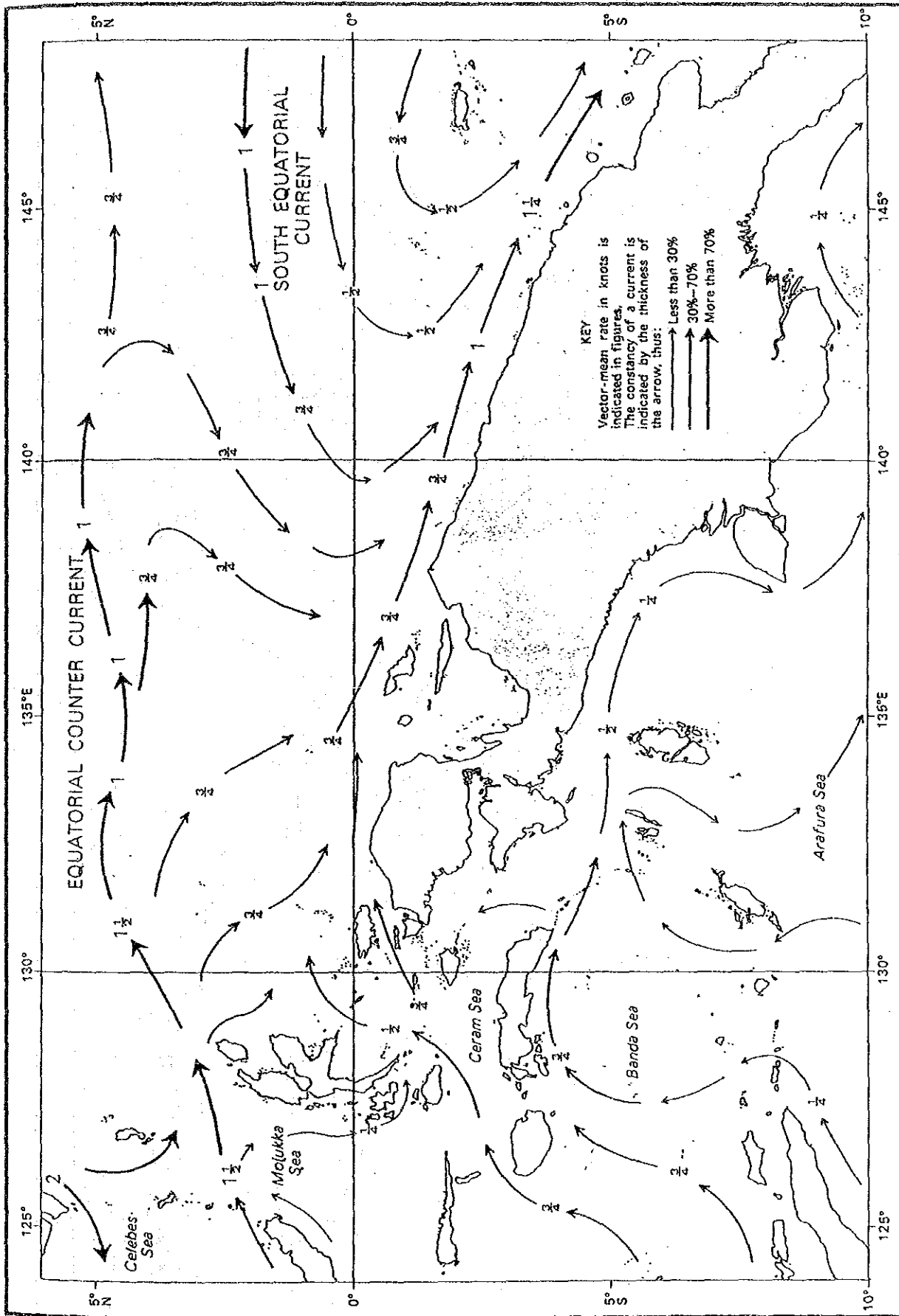


Fig. 4-1-1(1)A Average currents during February